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PREFACE

The International Labour Organisation has long and persistently advocated the counter-cyclical timing of public investment as a means of offsetting fluctuations in private employment. This principle was enunciated in a Recommendation adopted at the very first session of the International Labour Conference in 1919, and was referred to at several sessions during the 'twenties and early 'thirties.[1] In 1937 the International Labour Conference adopted two Recommendations on public works policy, one concerned with national planning and the other with international co-operation. The essential purpose of the Recommendation on national planning, which in effect superseded the Recommendation of 1919, was to achieve a suitable timing of all works undertaken or financed by public authorities, so that there might be an increase in the volume of such works in periods of depression. A further Recommendation on the same subject was adopted in 1944, adding certain principles which are of particular importance in the transition from war to peace but which are also applicable to long-term policy.[2]

The 1937 Recommendation on international co-operation recommends that Member Governments should communicate to the International Labour Office statistical and other information on public works, and provides for the co-operation of Governments in the work of the International Public Works Committee. That Committee, whose name has since been changed to International Development Works Committee, consists of representatives of those Governments which have indicated their willingness to give effect to the Recommendation, together with three persons nominated by the Governing Body to represent employers and three to represent workers. Provision is also made for the attendance of advisory members representing other public international organisations invited by the GoverninBody and of assessors.

The duties of the Committeee are:

(*a*) To prepare the uniform plan referred to in paragraph 2 of the Public Works (International Co-operation) Recommendation, 1937, and to revise the said plan as occasion may require;

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[1] Cf. I.L.O.: *Planning of Public Works in Relation to Employment* (Geneva, 1937), Introduction, pp. 1-5.

[2] The texts of these Recommendations are given in Appendix I.

(*b*) To study every year the information gathered by the International Labour Office as a result of the said Recommendation or in any other way;

(*c*) To make reports to the Governing Body of the International Labour Office with a view to their transmission to the Members of the Organisation; and

(*d*) To undertake any other duties relating to public works which may be entrusted to it by the Governing Body either upon its own initiative or at the request of any States or organisations concerned.

The Committee met in a first preparatory session in Geneva on 27 to 29 June 1938. The work of the Committee was interrupted during the war, but a recent session was held in Montreal from 28 January to 1 February 1946.

It is generally recognised today that the achievement and maintenance of a high level of employment depends essentially on achieving and maintaining a regular flow of the national income, which consists of expenditures on goods and services. Of these expenditures, that on public investment is particularly significant from the point of view of employment policy, as it can be varied in an anti-cyclical manner to counteract industrial fluctuations. While the desirability of an anti-cyclical timing of public investment is widely accepted, the application of this principle is beset by many difficulties. It is the object of the present Report to explain what these difficulties are, and to suggest methods by which they may be overcome.

The terminology of the subject has become rather confused, and it seems advisable to say something on that aspect of the matter here. Throughout the inter-war period, it was customary to speak of planning public works, and the term "public investment" has only gained currency in recent years. The International Labour Organisation has never used the term "public works" in a restrictive sense. The Public Works (National Planning) Recommendation, 1937, speaks of "all works undertaken or financed by public authorities". The International Public Works Committee, at its first meeting in 1938, defined public works as "all works undertaken by central, regional or local authorities or with the aid of subsidies or loans from such authorities or supervised by them". Despite this broad definition, the term has given rise to some misunderstanding. It has come to be associated in the public mind with a narrow range of undertakings such as roads and public buildings, to the exclusion of larger development works. In some cases it has even been confused with the entirely different conception of relief works, which were so common in the 'thirties. It was for this reason that the Governing Body decided to change the name of the International Public Works Committee to International Development Works Com-

mittee, as the latter term seemed to indicate more clearly the type of work with which the Committee is concerned. It could not, of course, change the title of the Recommendations, which therefore continue to be known as the Public Works (National Planning) Recommendations, 1937 and 1944, and the Public Works (International Co-operation) Recommendation, 1937.

The question of definition was discussed further at the 1946 session of the Committee. For the purpose of the uniform plan for the supply of information by Governments, "public (or development) works" were defined as follows: "New works undertaken, and new plant, equipment and supplies purchased, by central, regional, or local governments and publicly owned undertakings not otherwise included, and maintenance and repair work related thereto." In this Report, the term "public investment" is used in the same sense as the International Development Works Committee's definition of "public works".

The Report was submitted to the International Development Works Committee as documentation for the second item on the agenda, namely, "to consider certain difficulties that may arise in the application of the Public Works (National Planning) Recommendation, 1937". The Committee agreed that ten points of policy "should be given very careful consideration by all Governments engaged in planning public investment . . . ". These points will be found at the end of Chapter XXII.

The Office is indebted to Government officials of several countries and to members of the International Development Works Committee for helpful information and suggestions; but none of these persons bears any responsibility for the accuracy of the information presented. This Report was prepared by Benjamin Higgins, of the Employment Section of the International Labour Office, in consultation with the Chief of that Section. Part III benefited greatly from discussion with architects, engineers, community planners, and public administrators. The Office wishes to express its gratitude, particularly to G. Holmes Perkins, Professor of Regional Planning at Harvard University, for his critical reading of the manuscript of Part III. Professor Perkins is, of course, without any responsibility for the validity of the contents of this Part.

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PART I

PUBLIC INVESTMENT IN THE POST-WAR WORLD

CHAPTER I

INTERNATIONAL ASPECTS OF PUBLIC INVESTMENT

Throughout the last twenty-five years the International Labour Organisation has emphasised the importance of public investment policy for national and international welfare. As the years have gone by, the interest of the Organisation in this particular aspect of economic policy has grown, and the Recommendations concerning it have been broadened and strengthened. One reason for that may be that between 1919 and 1939 there were two major depressions, during which the timing of public investment to prevent or reduce unemployment was applied imperfectly or not at all. Even in 1939, after a decade of depression interrupted only by incomplete recoveries, unemployment was still at a high level in many countries. As the war progressed, it became apparent that for maintaining employment in the transition from war to peace, for reconstructing devastated areas, and for developing industrially lagging countries and regions, public investment would be more important after the war than ever before. In addition, the recent emphasis on the relationship between employment and total spending suggests that the use of public investment to offset cyclical (and perhaps chronic) unemployment should become a more prominent feature of long-run economic policy as well.[1]

These factors have resulted in a growing recognition of the importance of public investment policy on the part of Governments, employers, and workers the world over. However, the increasing interest of the International Labour Organisation in public investment also springs from a conviction that public investment policy is a matter of international concern. With regard to "international public works", there could be no doubt on this score; it is obvious that international loans to help undeveloped countries to finance needed public works require international agreement, and that if the loans are to be successful from the viewpoint of both debtor and creditor, such international public works must be based upon thorough international planning.[2] The timing

[1] Cf. Ch. II below, and LEAGUE OF NATIONS, Report of the Delegation on Economic Depressions: *Economic Stability in the Post-War World* (Geneva, Series of League of Nations Publications, 1945. II. A. 2.), Ch. XVI.

[2] Cf. Eugene STALEY: *World Economic Development*, Studies and Reports, Series B, No. 6 (I.L.O., Montreal, 1944), especially Ch. V.

of international lending so as to offset cyclical unemployment in both borrowing and lending countries clearly requires control by a public international authority.[1] It is equally clear that international planning is necessary for the efficient undertaking of development projects that traverse borders, such as waterways, hydro-electric grids, railways, and roads.

The international importance of domestic public investment, with which the present Report is concerned, is perhaps less apparent. The primary reasons for undertaking a public investment programme executed and financed within the borders of a single country are clearly to develop resources, promote welfare, and maintain full employment in that country; and cases in which a domestic public investment programme of a certain size and type is desirable internationally but undesirable from the point of view of the country undertaking it would be very rare indeed. On the other hand, it is quite clear that other nations have an interest in the economic health of each country; and the greater the economic power of any country, the greater the interest of other nations in its prosperity.[2]

Almost every country can find in its history proof that depression in any part of it threatens prosperity in all of it — witness British concern over the "depressed areas" throughout the 'thirties, the drag on Canadian industrial prosperity from chronic depression in agriculture between the two world wars, the limitation imposed on American real incomes by the existence of the Middle Western "dust bowl", to mention only a few examples. The argument is not greatly changed if the world economy, rather than a particular national economy, is under consideration; it is still true that the greater the world-income to be shared, the greater will the absolute share of any region in that income tend to be.[3] The most essential

[1] Cf. LEAGUE OF NATIONS, *op. cit.*, pp. 198-200.

[2] Professor Alvin HANSEN, Special Economic Adviser to the Board of Governors of the Federal Reserve System of the United States, has stated that "with respect to the United States, it may be asserted with a good deal of confidence that this country could make no greater contribution towards the solution of the international political as well as economic problems than that of achieving a high degree of internal stability at a level of fairly full employment of labour and other resources. A violently fluctuating American economy is a menace to economic stability in the rest of the world. A chronically depressed America, unless the world can in some manner isolate itself from this depressional influence, tends to infect other countries." (*America's Role in the World Economy*, New York, Norton, 1945, pp. 23-24.) Since the United States has nearly half the world's industrial capacity, such statements are particularly relevant to that country; but they apply in some degree to all countries.

[3] In the words of a prominent American business man, "the problem of business stabilisation is fundamentally an international one, and, increasingly with the development of world-wide industrialism, it can be settled only on a basis of some utilisation of world-wide instruments of planning and control". (Ordway TEAD: *Theories and Proposals for Stabilising the Wage Earners' Income*, New York, American Management Association, Personnel Series 10, 1931.)

requirements for maximisation of world income are the maintenance of full employment in advanced countries and the economic development of retarded countries. Public investment has a major contribution to make in both these respects. The world can no more afford to be indifferent to the public investment policies of particular countries than a nation can afford to ignore economic policies of particular States, provinces, or regions.

As stated in the Declaration of Philadelphia adopted by the International Labour Conference in 1944, "poverty anywhere constitutes a danger to prosperity everywhere". The statement is true whether poverty is the result of low productivity in undeveloped areas, or of unemployment of men, materials, and machines in highly developed countries. The process of raising the national incomes of relatively backward countries through development works will provide new or enlarged markets for the more mature economies, and so help to solve their unemployment problem. Eliminating depressions from the highly industrialised economies through judicious public investment policy will bring economic stability to most of the world. National development works, financed by both foreign and domestic credits, can do more than any single factor to raise the standard of living in such countries as China, India, and Turkey. The needs of such undeveloped areas for railroads, highways, ships, telephones and telegraphs, electric power, and other kinds of capital equipment run to astonishing figures and are too enormous to be met by private finance alone and unaided.[1]

In many regions, and indeed in some whole countries, domestic public work programmes could make only a minor contribution to prosperity, while foreign public investment programmes may be of the utmost importance. The Canadian Prairie Provinces are a case in point. Domestic absorption of Canadian agricultural surpluses seems out of the question, and policies designed to maintain the level of Canadian national income cannot in themselves solve the problem of agricultural over-expansion in Canada. A public investment programme in Great Britain, however, by maintaining high levels of national income there, would do much to foster prosperity in the Canadian Middle West. The same is largely true of the Australian sheep-raising or Swedish lumber areas. Similarly, a housing programme in New England might mean more to the lumber industry of the Canadian Maritime Provinces than a housing programme in the Province of Ontario; the maintenance of American purchasing power after the war is more crucial to Brazil and the Malayas than anything subject to control by Brazilian or

[1] For some figures on such needs, see Eugene STALEY, *op. cit.*, Ch. I.

Malayan economic policy. The domestic planning of countries dependent upon exports requires knowledge of proposed public work programmes in countries constituting their chief markets. Only when such knowledge has been made available will it be possible for such countries to determine what domestic policy is required to minimise post-war economic disturbances at home.

A common international approach to public investment policy will also simplify the problem of maintaining stability of foreign exchanges. Excessive public spending can result in an inflationary boom in any country, affecting other economies adversely by disrupting the foreign exchanges, and perhaps also by causing an ill-founded outflow of capital from them. More important, as the experience of 1919-1922 and 1929-1939 demonstrated, failure of some countries to prevent deflation through adequate monetary and fiscal policy can exert dangerous pressure on the foreign exchange rates of other countries, requiring commensurate deflation, depreciation of currencies, or exchange control. The result is likely to be transmission of depression from country to country, or a cycle of competitive currency depreciation, or increasing restrictions on international trade and finance, or a combination of all three.

No country should be hampered in its efforts to develop its resources or maintain full employment by considerations as to its exchange position, as some countries were in the "great depression". But if such considerations are to be excluded from public investment policy, there must be international integration of domestic investment policies, both with each other and with international financial policies.

National and international public investment must be planned together. Full employment requires in each country a certain level of total spending. Investment in exports and investment in domestic public works are among the alternative forms of spending. An economically mature nation faced with an unemployment problem could meet it by lending abroad to help to finance exports, by launching a public investment programme at home, or by both together, as well as by stimulating domestic consumer-spending and domestic private investments. The relative merits of each must be carefully weighed, and the interactions between them in terms of demands for resources, effects on various prices and wage rates, and so forth must be considered. A lending country has an interest in seeing that the borrower engages in domestic public works of a sort that will raise its productivity, and thus increase its capacity to repay. Borrowing and importing nations must consider whether, and to what extent,

development works will require foreign credits, what kinds of imported materials and equipment will be most useful in a domestic public investment programme, and so forth.

A programme of international investment for the development of economically retarded areas will result in reallocation of men, materials, and machines in both borrowing and lending countries. The subsequent repayment of loans through increased exports from borrowing nations and increased imports into lending countries will require further shifts at a later date, which may be in the reverse direction. Mobility of labour and resources is therefore a prerequisite to efficient operation of an international economy. Mobility can be greatly increased by policies designed to achieve and maintain full employment. Indeed, the fear of unemployment resulting from an import surplus has in the past been a barrier to the repayment of international loans, and by the same token will be a barrier to the negotiation of international loans for reconstruction and development. If all Governments expressed their determination to maintain full employment at home by public investment and other effective means, these fears would be substantially allayed, and international investment could proceed more smoothly. The actual execution of a full employment programme would go far towards ensuring the needed mobility of men and resources.[1]

In addition to providing the expansionist background necessary for a smooth-working international development plan, domestic public investment can increase the mobility of labour directly. Experience with geographical and occupational shifts of workers during wartime has shown how much easier it is to move men from one job to another if they are assured of adequate housing, schools, hospitals, and other community facilities, and, if necessary, opportunities for retraining, in their new place of work. All these things can be provided by a complete programme of domestic public investment. Thus, once it is admitted that international public works require international planning, it follows at once that domestic public investment has its international aspects, for the two are economically inseparable.[2]

Effective planning of public investment in each country also

[1] Cf. Eugene STALEY, *op. cit.*, p. 186.

[2] ". . . the two phases of expansionist policy — domestic economic expansion and world economic expansion — are interdependent; they are organically related. The best domestic policy will not work as well as it should unless a suitable international policy is combined with it. It is often said that the most important contribution which great economies like the United States can make to world recovery is domestic recovery, and there is much truth in that statement. But it makes a great difference whether domestic recovery is moulded in the light of what is needed for international recovery, not later but simultaneously." (*Ibid.*, pp. 110-111.)

requires acquaintance with the plans of other countries concerning new private investment. Only when a Government knows what plans are being made for private investment abroad can it estimate with any accuracy the opportunities for various types of private industry within its own borders; and only when the opportunities for private investment have been carefully examined can it estimate the probable scale, nature, and location of potential unemployment within the country. Thus planning public works within each country can be completely efficient only if plans within the private investment sphere of other countries are known. Ideally, there would be careful integration of reconversion plans through international agreement, in order to avoid a scramble for markets in the post-war period, to exploit fully the advantages of geographical specialisation, and to provide a sound foundation for domestic planning in each country. In the absence of such agreement, the collection and redistribution of information through an international agency as to post-war plans for private investment can be extremely useful.[1]

International exchange of experience in the field of public investment can greatly facilitate public investment planning in all countries. Planning public investment requires a special sort of statistics, concerning the creation of employment on and off the site of projects, the time required before and during construction, and so forth. To some extent, gaps in such statistics for one coun-

[1] Some of the information needed for the integration of domestic and foreign investment has been listed by Dr. STALEY (*op. cit.*, p. 103) as follows:

> In the first place, it [an international development authority] would need to know about each region where large-scale development is contemplated (*e.g.*, about China):
>
> 1. A rough estimate of the order of magnitude of the total amount of capital goods of all kinds which the region might be capable of absorbing and putting to good use over the next ten years.
> 2. The particular categories of equipment and the approximate amounts of each that could usefully be absorbed in the earlier years.
> 3. What portions of this equipment would be needed from abroad and what could be supplied locally.
> 4. What particular items it would be important to have first — in other words, a priority schedule or flexible time schedule.
>
> In the second place, an international development authority would need to know about each advanced industrial region capable of supplying equipment (*e.g.*, about the United States):
>
> 1. The probable productive capacity of particular equipment industries at the end of the war, and the ease or difficulty with which these capacities might be increased or decreased (by transfers of workers, etc.).
> 2. The peacetime demands, aside from international development projects, which might be anticipated for the output of these industries immediately after the war and over the next five to ten years, assuming various levels of national and world income.
> 3. On the basis of (1) and (2), indicated structural maladjustments leading to particular shortages and surpluses and the indicated types and amounts of equipment that might beneficially be ordered in this region for international development use at various stages.

try can be filled from the experience of others. Moreover, any nation embarking upon a large-scale programme of public works will encounter unforeseen problems and obstacles, both in its planning and in its execution. There is some similarity in the nature of these problems and obstacles from country to country. Each country by making available to the relevant agencies of other countries its experience with regard to problems that arise in undertaking public works programmes, and the manner in which they are met, can save other countries a great deal of difficulty and delay.

Thus international planning of public investment is an integral part of the general framework of international government. None of the international organisations could function effectively in a world depression comparable to that of the 'thirties. Even relatively wealthy countries are likely to balk at a large-scale programme for the relief and rehabilitation of foreigners if a substantial portion of their own population is in want. The International Monetary Fund proposed at Bretton Woods could not handle the kind of monetary disequilibrium that would result from, say, a collapse of American national income to pre-war levels, let alone the level of 1933. It is not too much to say that even the United Nations Organisation might be in grave peril if another world depression similar to the last one were allowed to develop. International agreement with respect to full employment policy, of which public investment policy is a significant part, is the true foundation of all international agreement. As J. B. Condliffe and A. Stevenson conclude from their analysis of *The Common Interest in International Organisation*:

> Rising standards of living, full employment, social security and economic development are now discussed more widely and in more practical terms than ever before. There can be little doubt that national Governments will encounter a widespread and earnest demand for action designed to achieve these objectives. There is equally little doubt that independent and unco-ordinated action by national Governments is likely to hinder the international economic collaboration that is essential if employment and security are to be achieved together with high living standards.[1]

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[1] J. B. CONDLIFFE and A. STEVENSON: *The Common Interest in International Organisation*, Studies and Reports, Series B, No. 39 (I.L.O., Montreal, 1944), p. 126. It may be recalled that the Australian Government proposed at the 26th Session of the International Labour Conference at Philadelphia (Apr.-May 1944) and at other international conferences the adoption of an international agreement by which Governments would undertake to adopt such measures as may be necessary and practicable to maintain a high level of employment. It may also be noted that under the United Nations Charter the United Nations undertake to promote full employment, among other things, and all Members pledge themselves to take joint and separate action in co-operation with the Organisation for the achievement of this and the other economic and social purposes mentioned.

CHAPTER II

THE NATURE OF THE EMPLOYMENT PROBLEM

In an earlier I.L.O. report[1], a distinction is drawn between "excess-savings" and "capital-scarcity" countries. The former category comprises countries where there is a tendency for savings to exceed private investment plus net exports[2] at high levels of employment. At the present time, it consists mainly of highly industrialised countries that were heavily engaged in the war, but which suffered little or no devastation: the United States, Canada, and possibly Australia. Some belligerents (Brazil) and certain neutrals (Sweden, Switzerland), whose economies have been adapted in some degree to wartime export markets, may also find themselves in this category.

Capital-scarcity countries are those where there is a tendency for investment plus net exports to exceed savings at high levels of employment, and where there is consequently a need to encourage savings to avoid inflation. They include relatively undeveloped countries (India, Turkey, most Latin American countries) and countries that were highly developed before the war but which have suffered serious devastation in the course of it (Soviet Union, France).

Many countries are, of course, hard to classify, and others may be in different categories at different times. The United Kingdom, for example, seems to occupy a borderline position; for several years, there may well be a shortage of capital there, but as reconstruction is completed, it will probably become an excess-savings country.

The former Axis Powers are obviously a special case; while they will no doubt be capital-scarcity countries for some time, the factors guiding their reconstruction will be different from those affecting the United Nations.

The nature of public investment policy, its financing, and its timing, will differ as between the two groups of countries. In the

[1] International Labour Conference, 27th Session, Paris, 1945, Report II: *The Maintenance of High Levels of Employment during the Period of Industrial Rehabilitation and Reconversion* (I.L.O., Montreal, 1945).

[2] "Net exports" in this context excludes exports financed by Government foreign lending.

devastated countries, the primary post-war economic problem is physical reconstruction. Checking inflation and restoring financial order are urgent secondary objectives. Inadequate supplies of labour and materials, rather than unemployment and unused stocks, will probably cause most concern. Restoration of productive capacity will take precedence over all other economic objectives, and there will be so many jobs crying to be done that for some time to come Governments should have no difficulty in assuring work for everyone who wants it.

Past experience provides no adequate guide to the nature of the post-war task in countries in this category. The defeated nations in 1918 had suffered little physical destruction, and the victorious nations had suffered much less than Poland, the Netherlands, France, and other scenes of battle in this war. This time Germany, Italy, and Japan must contend with both devastation and defeat, and several of the victorious United Nations also face enormous jobs of physical reconstruction and replacement of productive capital. In some countries, pre-war economic and financial organisation has been almost entirely disrupted, and a large share of pre-war plant, equipment, housing, labour, and agricultural capacity has been destroyed. For these countries, maintaining full employment will probably seem a relatively minor problem until reconstruction is completed, except as failure to meet it elsewhere impairs their ability to obtain help from abroad.[1]

Much the same is true of the relatively undeveloped areas. For these countries, the economic problem now, as before the war, is to continue national economic development, with as much aid from the more mature economies as possible. The special problems of capital-scarcity countries have received consideration in recent I.L.O. reports[2]; and while the discussion in the present Report is for the most part relevant to capital-scarcity countries, it is directed mainly at countries facing the problem of unemployment arising out of a deficiency of effective demand.

For excess-savings countries, especially those members of the United Nations that have devoted more than half their productive resources to war but have not served as major battlefronts, experience after previous wars does provide some indication of the kind of situation that will be faced after World War II, and of the sort of economic policy required to meet it sucessfully. Studies of post-war periods since the end of the eighteenth century suggest

[1] Of course, scarcities of materials and equipment may also lead to unemployment. Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, Chs. II and III.

[2] International Labour Conference, 27th Session, 1945, Report II, *op. cit.*; and Eugene STALEY, *op. cit.*

— despite geographical and temporal variations — that there is a tendency for post-war economic fluctuations to follow a common pattern: hesitation or minor recession for a few months; a year or more of accelerated activity and inflation; deflation, leading to short but deep depression; recovery, and several years of prosperity; then deep and prolonged depression, interrupted only by brief and incomplete recoveries.[1] Neutrals that had become largely dependent upon exports to belligerents face much the same sort of employment problem as the excess-savings belligerents themselves. Neutral countries whose economies become geared to wartime demands from belligerents tend to share the post-war fate of the warring nations, and sometimes suffer even more violent fluctuations in income and employment than the belligerents themselves. Like the economically mature belligerents that have emerged with their capital equipment intact or improved, the advanced neutral countries will be primarily concerned with economic stability during the transition period; and for them as well as for the highly developed countries past experience can teach valuable lessons.

Previous Post-War Economic Patterns[2]

The most striking lesson to be learned from previous post-war histories is that fiscal and monetary policy constitutes the dominant factor in the course of post-war economic events. In many countries, Government spending and budget deficits continued after the 1914-1918 War at levels far higher than were common before the war. After the initial hesitation, monetary expansion also continued at a rapid rate. In the absence of adequate direct controls, or borrowing of the sort that would reduce consumer outlays, the natural result was that inflation resumed its course and at an accelerated pace. After a few months of such inflationary boom, however, interest rates were raised, credit was tightened, Government expenditures were cut, and budget surpluses produced. Prices fell with the collapse of demand, and in face of cost rigidities at new high levels, depression and unemployment were the inevitable results.

Replacement and deferred demand played a less important role after World War I than might have been expected. In Great Britain, however, postponed demand was a factor of some significance; and increased activity in residential construction, resulting partly from wartime postponement, was an important element in the post-war booms of the United States and Canada. The

[1] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, p. 15, and the literature there cited.

[2] For a brief bibliography of literature on post-war economic fluctuations, see *ibid.*, p. 15, footnote 1.

increase in exports that contributed so heavily to the post-war boom in Australia, Canada, and Sweden was in part based upon replacement demand from various European countries. Replenishment of stocks (inventories) made a contribution to the expansion in all countries. Activation of idle cash balances and liquidation of Government securities no doubt had some influence. Yet there can be little doubt that monetary and fiscal policies were far more important than the appearance and disappearance of postponed demand in the explanation of the 1918-1922 boom and recession; the behaviour of postponed demand was itself due partly to these policies. The boom of the late 'twenties had even less to do with postponed demand developed during the war.

After 1922, the patterns of the countries mentioned in the previous paragraph diverged to some extent. Great Britain and Sweden had less than full recovery in the 'twenties, but relatively small additional losses of national income in the 'thirties. Canada and the United States had strong booms in the 'twenties, but disastrous depressions in the 'thirties. Australia occupied a midway position. None of these countries recovered completely during the 'thirties.

The factors involved in post-war cycles are too complex for detailed analysis here. However, in conjunction with British experience in the 1830's and 1840's and American experience in the 1870's and 1880's, they do suggest one conclusion of outstanding importance: secondary post-war depressions are even more to be feared than the inflations and deflations common to immediate post-war periods. Such inflations and deflations no doubt bring considerable hardship and should certainly be avoided[1]; but they cannot be compared in their economic and social effects to the upheavals brought on by the great depression of the 'thirties. One might be disposed to argue that the most remarkable feature of the period just after November 1918 was the ease and rapidity with which the transition from war to peace was accomplished; but this transition was based upon an inflationary boom that should not be repaeted.[2]

[1] The Resolution adopted by the 26th Session of the International Labour Conference at Philadelphia in Apr.-May 1944 includes suggestions as to the kind of policies that should be pursued for this purpose (cf. I.L.O.: *Official Bulletin*, Vol. XXVI, No. 1, 1 June 1944): orderly and expeditious demobilisation, retention of price and exchange controls until no longer needed, tax adjustments to encourage rapid reconversion while still maintaining economic stability, and development of new financing mechanisms (Resolution concerning economic policies for the attainment of social objectives, Part II, National Policy, para. 12). See also the Resolution concerning the maintenance of full employment during the period of industrial rehabilitation and reconversion adopted by the 27th Session of the Conference at Paris on 3 Nov. 1945 (*idem*, Vol. XXVIII, 15 Dec. 1945). This Resolution suggests policies relating to investment, consumer spending, international capital movements and trade, and the planning of industrial reconversion and development in relation to changes in the structure of industry.

[2] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*

The history of the inter-war period should warn us against false optimism if the transition itself proves less difficult in some countries than has been feared. Post-war planning cannot stop when the men and women previously in the armed forces or war industry have been absorbed into peacetime employment. The real problem may still lie ahead, and may only appear when the usual post-war boom is over.

Special Features of World War II

Economic history from 1919 to 1939 warns us what to guard against after the present war. However, it would not be safe to assume that whatever policy would have worked in the inter-war period will be adequate this time. History repeats itself — but by variations on an original theme. World War II had economic characteristics different from anything that ever appeared before; and these characteristics will make the post-war problem different in degree, and possibly even in kind, from anything previously encountered.

In the first place, Government expenditures in belligerent countries have reached unprecedented magnitudes. As may be seen from table 1, in the fifth year of war, Government expenditures were about 50 per cent. of gross national product in undevastated belligerent countries. While there are no satisfactory figures of gross national product for the World War I period, such data as exist suggest that the economic effort in World War II is about double that of the last one, in terms of the share of total resources devoted to war. The post-war task of reabsorbing men and women released from the armed forces and war industry has been proportionately greater this time, and failure to adopt adequate employment policies might have led to deep and prolonged depression soon after the war, instead of several years later.

The huge Government expenditures led to remarkable increases in gross national income, despite the diversion of workers to the armed forces, where their contribution to money income was relatively small. The increase is partly explained by price increases, longer hours, increased effort, improvements in technique; but it was mainly the result of reaching "full employment" for the first time in many years — perhaps the first time since the previous war. Not only current production, but even productive capacity, increased in the undevastated belligerent countries, and perhaps also in affected neutrals. Wartime improvements of technique and the record levels of new investment in plant and equipment will leave a heritage of new capital and new technology for peacetime production. A relapse to pre-war levels

of output would accordingly be entirely incompatible with the objective of full employment.

TABLE 1. WARTIME ECONOMIC DEVELOPMENTS IN THE UNITED KINGDOM, THE UNITED STATES, CANADA, AND AUSTRALIA

	United Kingdom	United States	Canada	Australia
	%	%	%	%
Government expenditure as percentage of gross national product, 1944	56	53	51	55[1]
Taxes as percentage of Government cash requirements, 1944 or 1945 . .	51[2]	44[3]	44[3 4]	42[3]
Percentage held by banking system of increase in national debt, 1939-1944	19	44	52	53
Percentage Increases and Decreases, 1939-1944				
Gross national product	63[5]	123[5]	100[5]	73[6]
National debt	174[6]	342[7]	180[4]	495[7]
Ratio of computed interest charge to outstanding debt	−21[6]	−24[2]	−30	−32[2]
Currency in circulation	141	219	287	390
Deposits subject to cheque	85	143[8]	77	68
Total means of payment	94	151[8]	93	99
Wholesale price index	62	35	36	38
Cost-of-living index	27	27	17	24[9]
Hourly wage rates	42	64	21[9]	26[9]

Sources:
United Kingdom: *The Economist*, 5 May 1945, pp. 589-599; BANK OF ENGLAND, *Statistical Summary*.
United States: *The Budget of the U.S. Government for the Fiscal Year Ending 30th June, 1946; Federal Reserve Bulletin; Bulletin of the Treasury Department*.
Canada: BANK OF CANADA, Statistical Summary; DOMINION BUREAU OF STATISTICS, *Monthly Review of Business Statistics; Budget Speeches Delivered by the Minister of Finance*.
Australia: COMMONWEALTH BANK OF AUSTRALIA, *Statistical Bulletin; Quarterly Summary of Australian Statistics*.
Wage rates: *International Labour Review*, Vol. LI, No. 5, May 1945, pp. 678, 681, 684.

[1] Fiscal year. [2] Fiscal year 1945. [3] Fiscal year 1944. [4] Estimates. [5] Calendar years. [6] Fiscal year 1939 to fiscal year 1945. [7] Fiscal year 1939 to fiscal year 1944. [8] End of fiscal year 1939 to end of fiscal year 1944. [9] Calendar year 1939 to calendar year 1943.

Despite the much higher rate of Government expenditures, the proportion covered by current revenues was higher than in the last war, as a result of unprecedentedly high taxation. Taxes of central and local governments combined were about 30 to 40 per cent. of national incomes. The effects of such huge tax collections upon investment and consumption are obviously very profound, and tax policy can be a more powerful instrument — for good or for evil — than ever before. Post-war tax revisions should be based upon careful studies of their probable effectiveness in controlling inflation, on the one hand, and in promoting full employment, on the other.

The national debts of the major undevastated belligerents swelled two- to sixfold during the war period. However, as a

result of easy money policies, successful loan campaigns, and the large proportion of short-term obligations in wartime borrowing, the average rate of interest paid on Government issues fell during the war. The net effect was to leave debt service forming much the same proportion of national incomes as before the war, but a very much smaller share of current revenues. Because of the rise in national incomes, debt service would be smaller relative to revenues even at pre-war tax rates. Moreover, the great bulk of the increase in debt is internal; Great Britain alone emerges from the war with its foreign capital account position impaired. Thus the servicing of national debts will be little more onerous than before the war in most of these countries.

However, it would be fruitless to deny that the rise in national debts presents a problem. If a major depression ensues, the debts will become a serious financial burden. Even if full employment is maintained, the liquidation of bonds held by individuals and non-financial corporations — if the proceeds are spent more rapidly than supplies of goods and services can be increased — will aggravate the danger of inflation during the transition period. Finally, the concentration of the debt in the hands of banks and insurance companies, and of persons in the middle- and upper income groups, suggests that servicing the debts may aggravate the inequality of income distribution unless tax structures are revised so as to diminish the tax burden on the lower income groups. The growth of national debts, while not a serious factor in itself, makes all the more imperative a revision of tax structures and introduction of other policies designed to maintain economic stability.[1]

The effort to control inflation has resulted, probably for the first time in history, in a rise of prices smaller than the expansion of means of payment. The very novelty of this phenomenon makes its ultimate results hard to predict. There can be little doubt, however, that the wartime growth of idle cash balances makes the post-war price situation highly volatile. Activation of the huge increase in money supply, especially if combined with liquidation of bonds, could launch an inflation of very serious proportions. Moreover, wartime price controls have been more successful in stabilising the average level of prices, as expressed in official indices, than they have in maintaining an equilibrium relationship between prices. In all countries, some prices have risen much more than others. A particularly difficult problem will arise from the fact that rents have usually been kept very near their pre-war levels. This will complicate the problems of economic

[1] These matters are discussed more fully in Ch. IV.

control in connection with large-scale rehousing programmes and considerably increased cost levels. Similarly, the reintroduction on the market of durable consumer goods which have been out of production during the war may disturb general price levels considerably. Another problem which may present serious difficulties is that in those countries which have adopted policies of price stabilisation supported by subsidies (notably, Great Britain, Canada, Australia, New Zealand, and to some extent the United States) the cost and income structure has been inflated considera-

TABLE 2. WARTIME INCREASES IN COST OF LIVING AND WHOLESALE PRICES IN VARIOUS COUNTRIES, 1944

Base: First 6 months of 1939 = 100[1]

Country	Cost of living		Wholesale prices	
	Month	Index	Month	Index
Australia	Aug.	123	Nov.	139
Canada	Dec.	118	Dec.	140
United Kingdom	Dec.	131	Dec.	172
United States	Dec.	128	Dec.	137
Newfoundland (St. John's)	July	163	—	—
New Zealand	Dec.	114	Dec.	150
Union of South Africa	Nov.	131	Nov.	157
Argentina	Nov.	110 (Buenos Aires)	Nov.	209
Chile	Nov.	239 (Santiago)	Nov.	218
Mexico (Mexico City)	Dec.	200	Dec.	192
Peru	Dec.	173 (Lima)	Dec.	210
Uruguay	Nov.	122 (Montevideo)	—	—
Finland	Dec.	203	Nov.	273
Ireland	Nov.	171	—	—
Spain	Oct.	176	Oct.	203
Sweden	Dec.	149	Nov.	179
Switzerland	Dec.	153	Dec.	209
China (Chungking)	July	21,000	July	18,644
Egypt (Cairo)	Sept.	279	Sept.	326
India	Oct.	230 (Bombay)	Nov.	303 (Calcutta)
Iran	Mar.	785	Dec.	454 (Teheran)
Turkey	Mar.	335 (Istanbul)	April	463
Denmark	Sept.	158	Dec.	199
Germany	Nov.	112	Nov.	111
Norway	Nov.	153	Nov.	182
Iceland Reykjavik)	Dec.	277	—	—
Japan (Tokyo)	Nov.	161	Oct.	165
Palestine	Nov.	146 (Arab markets)	Oct.	349

Sources: LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*, Feb. 1945, pp. 49-51, and *International Labour Review*, Vol. LI, No. 4, Apr. 1945; except for Newfoundland, where more recent figures were available from other official sources. The index shown for China is prepared by the University of Nanking.

[1] Where a different base was used the index was converted in terms of this base.

bly more than the price structure. The realignment of prices with each other and with costs will require careful control if it is not to result in general inflation or deflation.

There are discrepancies in price movements among, as well as within, nations. Official price indices have risen less in some of the countries actively engaged in "total war" than in others, and less in these countries as a group than in occupied or neutral countries, as table 2 shows. Just as price controls have prevented the adjustment of relative prices to relative (subjective) demands, so foreign exchange controls have prevented exchange rates from adjusting to movements in relative price levels. The experience of Great Britain after the last war, and of Germany and France after 1929, illustrates the danger of deflationary policies undertaken to support over-valued currencies. Yet if the liberated and neutral countries are not to be forced through disastrous general deflations, either price levels in other countries must be brought up to their levels, or exchange rates must be adjusted. The latter solution is obviously the less disturbing, but the task of determining proper exchange rates is clearly one of great magnitude. Since public investment has an effect on price levels, the public investment policies of various countries are closely related to the question of foreign exchange rates, and must be integrated with foreign exchange policies in such a manner that no country is hampered by consideration of its foreign exchange position in its efforts to maintain full employment.

The Post-War "Deflationary Gap"

From experience after previous wars and a knowledge of the special characteristics of World War II, it is possible to state the post-war employment problem in fairly concrete terms for excess-savings countries. What is needed for such a statement is an estimate of the "deflationary gap" for several years ahead: that is, of the difference between the volume of total spending (gross national income) needed to maintain full employment[1] and the probable volume of private spending plus ordinary public expenditures on current services. The post-war employment problem

[1] By full employment is meant that every adult who wants employment can obtain it at current wage rates and working hours; that working hours are no shorter than the workers, in their capacity of consumers as well as workers, themselves (collectively) prefer at current wage rates; that wage rates are equal to the contribution workers make to total production; and that if an employee loses his job through contraction of his employer's scale of operations, he can find new employment (subject to the above conditions) within a short period, not exceeding (say) 3 months. Because of frictions, these definitions would be compatible with actual unemployment of 3 to 4 per cent. (Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, pp. 9-10.)

consists of closing this deflationary gap, in a manner consistent with other objectives of economic policy, such as control of inflation, national development, efficient use of resources, equitable distribution of income, and retention of essential freedoms.[1]

Theoretically, post-war employment policy can seek to fill the deflationary gap in any of four ways:

(1) It can raise the level of consumer spending.
(2) It can encourage higher levels of private investment.
(3) It can stimulate exports.
(4) It can increase the volume of Government expenditures for non-war purposes.

In the circumstances that will be faced in the next few years, there will be economic and political limitations to each of these four avenues of approach. A complete employment policy will therefore attack on all four fronts.

Governments may fill the deflationary gap, at least in part, by measures designed to increase private rather than public spending. Social security and unemployment benefits, family allowances, reduced sales taxes, will help to raise the level of consumer spending. Lower business and personal income taxes, more generous provision for offsetting losses against profits, Government underwriting of risky investments, subsidies of various kinds, can do much to stimulate private investment. International loans and elimination of trade restrictions will help to expand the volume of foreign trade. Yet when all these devices have been exploited to the full, public investment will still be a major item of employment policy in many countries. It is highly important, therefore, that public investment should be planned thoroughly enough, and far enough in advance, to guarantee its proper timing.

Longer-Run Considerations

It was pointed out earlier in this chapter that, in the past, secondary post-war depressions have usually been more severe than primary post-war depressions, and very much more serious than immediate post-armistice recessions. Yet even if immediate recession, primary post-war depression, and secondary post-war depression are all successfully avoided, there will still be a need to plan the timing of public investment so as to combat unemployment. Depression has been no stranger even to countries that have enjoyed generations of peace, and there is no reason to suppose that banishing war from

[1] For a brief outline of the technique for making such estimates, see Michael Kalecki: "The Maintenance of Full Employment in the Transition Period: A Comparison of the Problem in the United States and the United Kingdom", in *International Labour Review*, Vol. LII, No. 5, Nov. 1945, pp. 449-464.

the face of the earth will eliminate depressions as well. The problem of timing public investment so as to make a maximum contribution to general economic stability is therefore not a matter of "post-war" policy alone.

The League of Nations Delegation on Economic Depressions classifies depressions as cyclical, chronic, and structural.[1] Cyclical depressions can be subdivided in terms of the four main types of cycle that show up in statistics of employment, production, incomes, prices, and other significant economic time-series. These four types of cycle are:

(*a*) Seasonal cycles;
(*b*) Short (forty-month) cycles;
(*c*) Intermediate (nine-year) "trade or business" cycles;
(*d*) Long-wave (fifty-year) cycles.

Seasonal unemployment occurs in many industries: lumbering, construction, agriculture, and so forth. If the seasonal cycles of several major industries coincide in any country, the result may be serious unemployment in certain months. Otherwise the problem consists of shifting workers from one occupation to another with the seasons, to the extent that such shifts are possible and desirable.

The forty-month cycle has attracted relatively little of the attention of professional economists.[2] Its periodicity and its causes are not too well established, but depressions seem to occur approximately every three to three and a half years, and the cycles seem to be associated mainly with waves of accumulation and decumulation of stocks (inventories) and with irregularities in the replacement of certain types of capital equipment and durable consumers' goods. Except when a depression of this cycle has coincided with a trade cycle (nine-year) depression, it has not been a dangerous phenomenon; such recessions as those of 1924 or 1927 would not in themselves cause much concern. Like seasonal fluctuations, however, forty-month cycles must be offset if unemployment is to be avoided.

The nine-year cycle is the one that is usually meant by the "trade cycle" or "business cycle". The literature on it is abundant, and it is the best understood of all cycles. Its periodicity is not altogether regular, and has probably been exaggerated in the literature; but nevertheless, the interval from peak to peak (or

[1] LEAGUE OF NATIONS: *Economic Stability in the Post-War World*, *op. cit.*, Ch. II.

[2] See, however, J. C. HUBBARD: "A Model of the Forty-month or Trade Cycle", in *Journal of Political Economy*, 1942, pp. 360-386, and the literature there cited.

low to low) has not often varied greatly from nine years. Fluctuations in private investment are the main causal factor of the trade cycle. These fluctuations can in turn be traced to three main factors: the irregularity of "innovations"; waves of replacement of capital equipment; and variations in the level of consumer spending. Innovations — the introduction of new commodities and new techniques — do not proceed continuously, but tend rather to make their appearance spasmodically. When they do appear and are proved successful, they give rise to a wave of investment in the new and related industries — for example, in automobile factories, highways, and petroleum refineries. When the new industries are fully developed, investment falls off. Similarly, capital equipment does not wear out at a steady rate, and replacement tends to be "bunched". Such bunching suggests that replacement waves may be the product of earlier cycles, and a policy of economic stabilisation might tend ultimately to eliminate replacement waves. Finally, private investment is extremely sensitive to changes in the level of consumer spending — so much so, indeed, that under certain circumstances a mere tapering off of the *rate of increase* in consumer spending can cause an absolute decline in the rate of investment. A situation in which net investment is accompanied by a stable national income cannot continue indefinitely — and national income cannot rise indefinitely. Moreover, because entrepreneurs often expect a movement in one direction to continue, and because they tend to act in concert, there is a tendency for upward or downward movements to become cumulative at some stage.

Much less is known about "long waves". Their very existence is a matter of debate; statistical records extend over only two and a half such waves, and the significant time-series do not coincide to nearly as great an extent over fifty-year periods as they do in the case of the shorter cycles. If there are such waves, they are probably the result of the irregular appearance and development of new techniques so revolutionary as to affect the whole economic organisation. Examples are the developments in textiles and iron and steel in the late eighteenth century, in steam transportation in the middle nineteenth century, and in electrification and chemicals in the late nineteenth and early twentieth centuries.

Recent literature, centring around the work of Lord Keynes in Great Britain and Professor Hansen in the United States, has emphasised still longer-run considerations, under the heading of "chronic under-employment" or "secular stagnation". In general, the argument is that in mature economies profitable investment outlets are insufficient to absorb all the savings that individuals

and firms wish to provide at high levels of employment. Declining rates of population growth, disappearing frontiers, and the tendency for innovations to become capital-saving rather than capital-absorbing, are among the factors emphasised in explaining dwindling investment opportunities.

The exact relationship of chronic unemployment to the long wave has never been made altogether clear; the proponents of the secular stagnation thesis do not deny that the appearance of a revolutionary new industry *could* provide high levels of employment for some time. It is said that chronic unemployment characterised the period between 1920 and 1940; the United States, Great Britain, Canada, Australia, and Sweden experienced full employment in only a very few years in that whole period. It is much less obvious that a similar situation must necessarily prevail in mature countries after the war.[1] Even in the absence of sound economic policy, fluctuations in employment might take place around a higher average level than in the inter-war period. Yet, until it has been clearly established that the experience of the inter-war decades will never be repeated, economic policies will have to take into account the possibility that, in the absence of adequate policy, cyclical fluctuations will produce full employment only on rare occasions.

Structural unemployment arises from maladjustment and depression in particular industries or regions. South-west Scotland, South Wales, and Lancashire in Great Britain, during the inter-war period, are cases in point. Sometimes certain industries or areas are depressed even in countries that are otherwise fairly prosperous; examples are Canadian agriculture and the Swedish iron industry in the late 'twenties.

Fortunately for the public investment planner, it is not necessary to know exactly the nature and cause of unemployment in order to know how to deal with it. An adequate volume of total spending *within the economy* is the solution for all kinds of unemployment. To quote Professor Marschak:

> To nip depressions in the bud, is it necessary to know why they arise? We know that a given total demand would guarantee full employment of resources . . . if not immediately, then after some reasonable time needed for adjustments. Let us, then, keep total demand at the desired level, correcting it upward or downward wherever it slips up or down. This is the policy of the steering wheel. It dispenses with both theories and measurements of business cycles. All that is necessary is to watch current (not past) facts pertinent to employment, and to act quickly. It is not necessary to know the causes of the trouble or of its alleged periodicity.[2]

[1] Cf. LEAGUE OF NATIONS, *op. cit.*, Ch. XVI.

[2] Jacob MARSCHAK: "A Cross Section of Business Cycle Discussion", in *American Economic Review*, June 1945, p. 377.

This statement, as Professor Marschak himself points out, does not mean that the study of business cycles is fruitless, or that knowledge of the nature and causes of cycles would be useless to the public investment planner. If the economic system itself can be made more stable, the problem of offsetting fluctuations is thereby simplified; and the choice of projects would be influenced by the expected duration of the depression.

Moreover, special economic and administrative problems are concealed behind the qualifying phrase "within the economy". Given the degree of immobility of labour and capital that exists in the real world, the "economy" within which spending must be increased to avoid unemployment may be quite a small region — perhaps a single city. A general increase in public investment may provide employment for particular areas, industries or occupations only after a considerable lag. In areas, industries, and occupations wholly dependent upon foreign markets, domestic public investment may provide no employment whatsoever. In such cases, the administrators of a public investment policy face a difficult choice. Should jobs be provided in the areas, industries, and occupations where unemployment exists, or should public policy be directed towards accelerating and facilitating the migration of workers and of capital to other uses and places?

Governments will find themselves confronted with this question in a particularly acute form during the transition period. The answer in any particular case would depend primarily upon the long-run prospects for the area, industry, or occupation concerned. At Philadelphia in May 1944, the International Labour Conference agreed upon the following general principle, as part of the "Recommendation (No. 71) concerning employment organisation in the transition from war to peace":

> VII. With a view to avoiding the need for excessive movements of workers from one area to another and preventing localised unemployment in particular areas, each Government should, in co-operation with employers' and workers' organisations, formulate a positive policy in regard to the location of industry and the diversification of economic activity. Governments should also take steps to facilitate any necessary mobility of labour, both occupational and geographical.[1]

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[1] I.L.O.: *Official Bulletin*, Vol. XXVI, No. 1, June 1944, p. 63.

CHAPTER III

THE ROLE OF PUBLIC INVESTMENT IN EMPLOYMENT POLICY

Full employment is not an end in itself; it is rather one of the prerequisites for maximum human welfare. Maximising welfare requires attention to other economic goals besides full employment, such as control of inflation, physical reconstruction, stabilisation of foreign exchange rates, national development, and protection of basic economic, political, and social freedoms. Improved allocation of resources, nationally and internationally, and improved distribution of income, nationally and internationally, are other economic objectives worthy of serious consideration in planning for the post-war world.[1]

Public investment has a part to play with regard to all these post-war aims. Judicious public investment can improve the distribution of resources of a country in two ways. In some situations, it may add more to social welfare than any alternative use of the resources employed; in others it may bring lower prices and higher output to those fields of private enterprise where monopoly rules, either by providing a "yardstick" or by providing enough competition to force prices down to the competitive level. Yet public investment may absorb too much of a country's resources, and other measures for monopoly control may be more effective in many cases. Excessive or misdirected public investment can aggravate the inflation problem. Similarly, international public investment, by developing countries with low national incomes, can improve the international distribution of resources; but in some cases liberal immigration and trade policies might make an even larger contribution. Public investment has a contribution to make to national development, but unwise public expenditures can lead to retardation of national development, by destroying the vigour of private enterprise. It can foster economic freedom by broadening the range of employment opportunities. Public investment, as a part of Government expenditures, can do much to fill the deflationary gap; but in some

[1] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, pp. 9-10.

countries the gap may be so big that an effort to fill it entirely by public investment of the usual type, instead of stimulating consumer spending as well, may result in misallocation of resources. Public investment, in other words, is an extremely important department of post-war economic policy, but by no means all of it.

"Product" and "Process" Effects

There are two broad types of consideration involved in determining the optimum size and composition of a public investment programme. First, there is the direct contribution of the projects to social welfare: consisting, in the case of housing projects, for example, in the structures themselves, the improvement of the neighbourhood, the increased well-being of the occupants, the decline in delinquency and fire rates, and so forth. The direct utilities produced by public investment will henceforth be called "product effects", because they represent the effects of the end-product itself. Second, there is the stimulus to employment and income provided by the mere process of undertaking public investment and paying for it. These will be called "process effects". Other objectives of public investment, such as monopoly control or more equitable distribution of real income, can be brought into one or the other of these two categories.

Process effects can be broken down into five main subheads. First, there are the primary effects on income and employment of the public investment expenditure itself. Second, there are the "multiplier" effects emphasised in the recent writings of Lord Keynes. These consist of secondary increases in consumption resulting from the respending on consumers' goods of incomes initially created by public investment. The magnitude of the multiplier depends upon the proportions of increased incomes that are respent on consumption at each stage of the expansionary process. The proportion of increased income spent for consumption tends to vary inversely with the income of the recipient, and multiplier effects will be greater the larger the share of public investment outlays going to people in the lower income groups. Theoretically, the multiplier could be anything between unity and infinity, but statistical studies suggest that in most countries it lies between 2.0 and 4.0[1]; that is to say, the ultimate rise in national income through public investment plus secondary increases in consumer spending is two to four times the income created through public investment by itself.

[1] Cf. Colin Clark: *The Conditions of Economic Progress* (London, Macmillan & Co. Ltd., 1941), Ch. XV.

Third, there may be "induced private consumption". These effects consist of *new* streams of consumer spending engendered by public investment and financed by dishoarding or by extension of consumer credit. Statistically, they are hard to distinguish from spending out of the increased income directly created by public investment, but conceptually they are quite different. They represent net changes in consumer spending by people whose incomes have *not* been increased, directly or indirectly, by public investment, but who are made more (or less) optimistic by the actual or anticipated improvement (or deterioration) of economic conditions resulting from public investment.

Fourth, there are "relation" effects. These consist mainly of increases in private investment in response to the demand for materials and equipment used in public investment projects. If there is excess capacity in the materials-producing industries, or if large stockpiles are available, so that the new demand can be met without expansion of productive capacity, the relation effects will be small; but if meeting the new demand requires additions to plant and equipment as well as current replacements, the effects may be very large indeed. Thus relation effects are likely to be greater if public investment projects use materials in scarce supply than if they use materials that are abundant.

Fifth, there is "induced private investment", when entrepreneurs feel no direct increase in the demand for their product, but their general outlook is altered by the public investment programme. If private investors disapprove of public investment, because they regard it as unwarranted competition or because they have an irrational fear of mounting public debt, induced private investment may be negative. For this reason, it is important to avoid competition with private enterprise (except for purposes of monopoly control) and to make every effort to obtain a sympathetic understanding of public investment policy in the business community. The mere rise in profits resulting from the expansionary process, and consequent increase in entrepreneurs' savings, may constitute an additional inducement to invest.

These five aspects of the process effects interact upon each other. Every increase in public or private investment has its own multiplier and induced private consumption; every increase in consumption, its own relation and induced private investment. Taken together, process effects may be very great indeed; and each dollar spent on public investment during a depression may lead to a rise in national income many times that amount, bringing with it a commensurate increase in employment.

Where full employment already exists, the process effects of

Government expenditures are already implicit in the existing level of employment and prices, and so far as employment is concerned can operate only in a downward direction. Any cumulative upward movement of national income through Government spending would then constitute inflation. However, failure to replace war expenditures during the transition period by other expenditures (public or private), having equally large process effects, could lead to a *drop* in national income many times the original reduction in war expenditure.

The relative magnitudes of process effects for various types of public investment project are very difficult to determine.[1] Most statistical studies of the effects on employment of different kinds of projects are limited to the primary effects only, consisting of jobs created on the site of the project and of jobs created off the site in producing and transporting materials. Data of this nature are presented in Chapter VIII. It can be said, however, that the magnitude of the process effects will tend to vary as follows:

(1) Inversely with the level of the income group to which the payments are made;
(2) Inversely with the proportion of equipment and materials used that must be imported;
(3) Inversely with the size of available stockpiles of materials used in public investment;
(4) Inversely with the degree of excess capacity in materials-producing industries;
(5) Directly with the extent of understanding of and confidence in the public investment policy among businessmen, investors, and consumers.

Reconstruction and Development

In excess-savings countries post-war economic policy will no doubt be directed primarily towards maintaining full employment and at the same time preventing inflation. Public investment projects undertaken for their product effects should be timed, and to some extent selected, with reference to their process effects.[2] In the capital-scarcity countries, while maintenance of full employment and prevention of inflation will be major objectives, economic policy will be chiefly concerned with national development — whether construction or reconstruction — and public investment

[1] See below, Appendix II.
[2] Criteria for the selection of projects are discussed in Ch. VII.

will be thought of almost entirely in terms of product effects.[1] As time goes on, however, more and more countries will move from the second group into the first.

It seems clear that the task of reconstruction in the devastated areas will be too big, and too unprofitable in a strictly commercial sense, to be handled by private enterprise alone. As stated in the I.L.O. Report previously mentioned:

> Public buildings that have been demolished must be replaced with public funds. More workers' tenements have been destroyed by bombing than millionaires' mansions, and there is no reason to expect that private financial resources will be distributed exactly in accordance with reconstruction needs. Much of the need lies in spheres that have become traditional areas of public enterprise; canals, docks and harbours, roads, railways and hydro-electric systems constitute some of the most pressing needs for reconstruction.[2]

Even in industry, direct or indirect Government assistance will be necessary in some countries to help firms whose plants have been demolished to get back on their feet. Government aid may be especially important for the smaller firms whose survival means much in terms of preservation of competition; but inflation and expropriation have deprived many large concerns of their capital as well. The pressure on resources in general will be so intense that without Government regulation misallocation and inflation could result. Assurance of optimum use of the land which has been set free for reallocation by the destruction of the buildings

[1] The preamble to the Public Works (National Planning) Recommendation, 1944, makes reference to both types of public investment policy. With regard to excess-savings countries, the following paragraph is particularly relevant:

> Whereas the Public Works (National Planning) Recommendation, 1937, recommends that all works undertaken or financed by public authorities should be timed in such a way as to reduce industrial fluctuations as far as possible, and that special consideration should be given to the financing by loan in periods of depression of works likely to stimulate economic recovery and to the application of a monetary policy which will make possible the expansion of credit required for the speeding up of such works and ensure the lowest possible rate of interest on the loans . . .

For capital-scarcity countries, the paragraph most directly applicable is the following:

> Whereas at the end of the war public authorities will be faced with the great need to repair the damage caused by the war, to restore and replace existing public works, and to provide new public works and services . . .

The other two paragraphs are applicable to all countries:

> Whereas public works constitute a large element in the economic life of all nations, and public works programmes are an important method by which levels of productivity can be increased, and by which levels of living of all peoples can be raised; and
>
> Whereas it is important in the transition from war to peace that public and private enterprise should be co-ordinated to assure the prompt and orderly use of human and material resources, avoiding on the one hand rush demands for materials which would leave contractors temporarily in short supply and on the other hand inadequate development of demand . . .

[2] International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, pp. 51-52.

formerly located on it will be one of the essential Government functions in reconstruction. In other words, in these countries the basic economic problem for some time to come will be closely akin to the economic problem of war[1]; and public investment will accordingly have a substantial part to play in its solution.

It is generally recognised that part of public investment for reconstruction purposes must be internationally financed.[2] Experience after the 1914-1918 War with both private and Government foreign reconstruction loans was not too happy. While the loans helped to restore productivity in the borrowing countries, they were seldom repaid. There were several reasons for this financial failure: most of the loans were made by American bankers or Government agencies with little experience in the international field; some of them were political in character, and others were not carefully considered by both borrower and lender; most important, the debtor nations were unable to expand their exports enough to make repayment in face of the growing restrictions on world trade. The 1929 crash and the financial crisis of 1931 exposed to view the unsound structure of international lending, but the foundations had been faulty from the beginning. The unfortunate history of foreign lending in the 'twenties and 'thirties may make private finance somewhat shy of foreign investment in the 'forties and 'fifties; and the International Bank for Reconstruction and Development will no doubt profit by the lessons of the last post-war period.

National development is the traditional sphere of public investment. Few countries have developed their canals, railways, and roads, or their hydro-electric systems without some measure of Government assistance. Soil conservation, flood control, reafforestation, irrigation, geological surveys, rural electrification — these are spheres of activity that have been commonly associated with public enterprise in recent times. There are several reasons why this should be so. In the first place, they often require more capital than even giant private corporations can raise conveniently and

[1] Speaking of Great Britain, for example, N. KALDOR says: "After the conclusion of hostilities, there will be a period of transition and immediate reconstruction which, from the economic point of view, will have more affinities with the present war economy than with a peace economy" (in Appendix C to Sir William BEVERIDGE: *Full Employment in a Free Society*, London, George Allen & Unwin, 1944): "The Quantitative Aspects of the Full Employment Problem in Britain", p. 366). See also International Labour Conference, 1945, Report II, *op. cit.*

[2] Cf. Lewis LORWIN: *International Economic Development: Public Works and Other Problems*, National Resources Planning Board, Technical Paper, No. 7, Oct. 1942; J. B. CONDLIFFE and A. STEVENSON, *op. cit.*, pp 117-125; ROYAL INSTITUTE OF INTERNATIONAL AFFAIRS: *The Problem of International Investment* (London, Oxford University Press, 1937); Leland H. JENKS: "British Experience with Foreign Investments", in *Journal of Economic History*, Supplement, Dec. 1944, p. 68.

cheaply. In the second place, the benefits are often widely diffused among the population in a form that makes sale of the benefits for a profit rather difficult; thus many projects are poor risks for private capital and yet are highly productive for industry as a whole. Others take longer to yield a return than private investors care to wait; a nation, being very much longer-lived than any group of individuals, can afford to take a much longer view. Finally, private enterprise occasionally fails to seize the opportunity to develop a resource or a region, either because vested interests profit more from the existing state of affairs, or perhaps because private enterprise is less far-sighted than public enterprise where such projects are concerned.

Among recent public investment projects for developmental purposes, none has been more ambitious or more successful than the Tennessee Valley Authority in the United States.[1] At a cost of over $600 million, this gigantic undertaking raised the economic level of an area bigger than many European countries. It turned an unruly river, source of floods and soil erosion, into a controlled, navigable waterway, source of irrigation, recreation, and abundant, cheap electric power. It restored the productivity of an agricultural area ruined by erosion. Its power development increased the proportion of farms using electricity from 1 in 28 to 1 in 6; it raised residential power consumption from 55 to 129 kilowatt-hours per month; and it has stimulated industrial expansion, not only in the area itself, but throughout the country at large.[2] The improvement in navigation has raised traffic on the Tennessee River 50 per cent. over 1929 levels, at a saving of $3.5 million per year in transportation costs. The T.V.A. has planted some 150 million trees for timber, crops, and arrest of soil erosion. It has discovered new resources and new techniques of production. *Per capita* income in the area rose 84 per cent. from 1933 to 1940, as compared with an increase of 57 per cent. for the country as a whole.

The success of the T.V.A. has led to speculation about the possibilities of developing other river valleys in the United States and in other parts of the world. Some of these developments might be executed on an international basis. Extension and improvement of the European transportation system, development of relatively untapped resources of Latin America, indus-

[1] Cf. Herman FINER: *The T.V.A.: Lessons for International Application.* Studies and Reports, Series B (Economic Conditions), No. 37 (I.L.O., Montreal 1944); the various Annual Reports of the Tennessee Valley Authority; David LILIENTHAL: *The Widening of Economic Opportunity through T.V.A.* (pamphlet of the Tennessee Valley Authority, 1940).

[2] Secondary effects of the T.V.A. cropped up in many strange places; it created a boomlet for the coin-machine industry, for example (cf. "MVA-New Coin Machine Empire" in *The Billboard*, 25 Nov. 1944).

trialisation of China, India, Turkey, and the Balkans, are other possible public development projects. It is clear that many of these projects, like reconstruction projects proper, will require international planning and finance.

In a sense, the timing of public investment is a problem only for the countries that will be concerned chiefly with economic stability. In devastated countries, or in undeveloped areas relatively unaffected by the war, there will be no thought of deliberately postponing or restricting investment in needed projects; the needs will be too obvious and too pressing. The problem will be less one of absorbing resources through public investment than of distributing them in an optimum manner. The establishment of priorities will be the principal task, and the proper distribution of projects between the public and the private spheres of the economy will be an important consideration. Of course, the Governments of these countries, like others, will have the obligation of gearing their public expenditures so that, in conjunction with private expenditures, neither inflation nor depression develops.

Since the volume and the composition of the public investment programme carried out in these countries will depend upon the nature and degree of destruction or of retardation of economic development, no general principles can be laid down for them, so far as timing is concerned, beyond a few obvious statements:

(1) The total volume should neither be so great as to create inflation nor so small as to permit unemployment. If the amount of absolutely essential work is such that, in conjunction with private expenditures, it will lead to inflation, some system of priorities must be introduced to restrict the use of men, materials, and machinery in non-essential undertakings.[1] On the other hand, if a superabundance of men, materials and machines is found side by side with urgently needed works, considerations of money cost should not be allowed to stand in the way of public investment.

(2) Those public investment projects that are most important for social and economic welfare should be carried out first. A particularly difficult problem will arise where a choice must be made between increasing the immediate output of sorely needed consumers' goods and increasing productive capacity for the future. Little more can be said than that a good balance should be sought, and that if international lending to these countries proceeds as smoothly as it should, the need for such unpleasant decisions will arise less often.

[1] Under such circumstances, of course, it would pay the country concerned to arrange for increased imports of men, materials, and machines if at all possible.

(3) The necessary projects should be carried out as efficiently as possible. Where private contractors can do the best job, it should be left to them; and where public enterprise is superior, the job should be undertaken by the public authority.

(4) Integrated planning will be necessary for these countries just as much as for the mature economies. Housing, schools, and hospitals must be thought of together; streets, roads, and airports must be planned to link properly with one another; all that usually comes under the heading of "community planning" must be carefully considered.[1]

(5) The post-war timing problem will be confined to expanding the public investment programme as quickly as possible, and to tapering it off only so fast as private spending can replace it, when reconstruction and development projects are completed. Once reconstruction projects are finished, or the economy is developed to a high degree of industrialisation, these countries will become increasingly affected by fluctuations in private investment, and timing will become a more serious aspect of planning public investment. It should be remembered, too, that with regard to the speedy initiation of projects the difficulties are much the same in both groups of countries, and the analysis presented below of barriers to the prompt launching of public investment programmes will be applicable to countries in either category.

Public Investment and Transitional Unemployment[2]

In many respects, the problem of planning public investment is even more complicated in excess-savings countries, where the timing of needed projects so as to make a maximum contribution to full employment will be a major objective; for in those countries not only must the right kinds of public work be undertaken to get the most out of available resources, but also the right amount of public investment must be undertaken at each stage. The need for public investment may be high for some time after the end of the war, before private enterprise has fully converted to peacetime production. Once reconversion is safely accomplished, and fears of loss of income have been dispelled, private consumer spending will tend to rise, and can be permitted to rise considerably without fear of inflation. After the "hesitation" period is over, private investment may also reach higher levels than it did immediately after the cessation of hostilities. Given a few years of investment

[1] The principles and problems of community planning are dealt with in Part III below.

[2] Public investment policy for the transition has been discussed more fully in International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, Ch. VI.

at high levels, however, the rate is likely to fall off, especially for housing, stocks, and reconversion; only the development of new industries not yet on the horizon could keep private investment at a rate above 15 per cent. of gross national income in mature countries. As reconstruction and national development projects are completed in devastated or backward countries, *net* exports from excess-savings countries will also taper off (although the total volume of trade may still rise). Consumer spending is relatively stable, but the exhaustion of deferred demand will probably result in some drop in the share of income spent for consumption. Accordingly, within a few years after the war, the need for public investment is likely to increase again.

Thus, to satisfy the requirements of timing, a public investment programme should be composed partly of projects that can be completed within the transition period when private enterprise is not adequately reorganised to absorb all available resources. If all the public investment projects chosen extend beyond the transition period, the programme will compete unnecessarily with private enterprise for men and materials, delaying the expansion of consumers' goods production and unnecessarily prolonging the danger of inflation. Ideally, the projects chosen for the transition period would not require men and materials needed for reconversion itself; but it would be a happy coincidence if the most needed public investment projects could be carried out efficiently with precisely those types of labour and materials that are not needed for reconversion or for other types of private enterprise.

Some forms of public investment may be more important than any form of private investment, even in highly developed countries that have not suffered devastation during the war. Public housing, schools, hospitals, and similar projects delayed by war will stand high in any priority list. Moreover, it is quite possible that even at the height of the post-war boom in mature countries some public investment will be required to prevent unemployment. Thus, even in an ideal programme, not all projects begun when total war production is reduced must be terminable within the transition period.

Estimates of the deflationary gap, month by month, are difficult enough in themselves, and the margin of error may be quite large; but the problem of determining the optimum size of the public investment programme does not stop there. Other forms of public expenditure, and particularly various kinds of "human improvement" projects, such as adult education, recreation, art and music, research, and survey projects, have as much claim to public funds as construction and equipment projects. It is apparent that such

services not only make a large contribution to social welfare, but may even add more to welfare than many kinds of capital improvements that might be undertaken instead.

Expenditures on such projects may also have just as stimulating effects on the economy, dollar for dollar, as capital improvements. Indeed, since outlays on human improvement projects usually go almost entirely into payrolls for workers whose incomes are not very high, and who accordingly spend most of their income, while outlays on materials and equipment used in capital improvement projects go partly into profits, much of which may go into savings, a good case can be made for the argument that human improvement projects have a more stimulating effect than capital improvements. Moreover, some of these services have more flexibility than capital improvements, and can therefore be more easily fitted into a timing policy. There is therefore no reason for excluding them from considerations regarding the timing of public expenditures. These arguments are more fully substantiated below.[1]

In so far as there is a permanent problem of filling a deflationary gap in some of the more mature countries, it may be desirable to increase ordinary expenditures for such things as fire and police protection, rather than resort to construction projects which are of dubious merit so far as their direct contribution to welfare is concerned. Indeed, the possibility of chronic over-saving and under-employment calls for a complete recasting of thought concerning the role of Government expenditures, since it means that larger Government budgets need not entail restricting the supplies of resources available to private enterprise or increasing the tax burden.[2]

As mentioned in Chapter II, the influence of public investment policy on the mobility of labour will be a matter of special concern during the transition. In the I.L.O. report on maintenance of employment during the transition period, the following general principle was laid down:

> On the whole, it does not seem desirable that public investment should be utilised to maintain workers in places where opportunities for private employment are poor, unless the public projects are themselves of considerable importance to the national economy. In war industry centres where conversion to peacetime production or immigration of new industries is profitable, public in-

[1] In Appendix III: "Planning Public Expenditures other than Investment". See also, Benjamin HIGGINS: "The Public Work Reserve: An Experiment in Co-ordination of Public Investment Planning", in *International Labour Review*, Vol. L, No. 5, Nov. 1944, pp. 581-602.

[2] Cf. below, Ch. VII; and E. F. SCHUMACHER: "Public Finance — Its Relation to Full Employment", in OXFORD UNIVERSITY INSTITUTE OF STATISTICS: *The Economics of Full Employment* (Oxford, Basil Blackwell, 1944).

vestment might well be used to keep workers there until other jobs open up. In most such places, there will in any case be a need for schools, hospitals, housing and so forth. Where long-run prospects are poor, however, public investment policy should probably be directed towards facilitating and speeding the migration of workers, by providing transportation to other centres where jobs will soon be open, and by providing housing and community facilities in such centres.[1]

Public Investment after the Transition

How much can be done by public investment to combat seasonal unemployment is very doubtful. Studies by the United States Bureau of Labor Statistics suggest that, in many countries, public construction can itself be kept fairly free from seasonal variations without raising costs unduly. Where there is a net increase in seasonal unemployment in summer months, public construction could perhaps be used to offset it. In countries where seasonal unemployment is concentrated in winter months, the climate will usually be one that would make public construction an expensive, if not impossible, means of dealing with it. Something might be accomplished, however, through a well-planned programme of human improvement and other public service projects for the winter months.

There are also limitations on the use of public investment to counteract any tendency towards chronic or secular unemployment. If any country faces a situation in which the average level of employment, around which fluctuations take place, is too low because there is a tendency for savings to exceed investment at high levels of income and employment, it seems clear that the major object of economic policy should be to stimulate consumption at the expense of savings, through some variety of income redistribution.[2] Efforts to meet the problem by stimulating private investment would be self-defeating, since each addition to the stock of private capital equipment reduces the rate of return on further investment.[3] Similarly, there is no reason for absorbing all excess savings into public investment if people would rather have more of the goods and services provided by private enterprise. As a rule, any society will wish to spend part of an increase in the national income on public goods; but there is no reason why any society should be compelled to consume more public goods than it wants, while the potential demand for private goods remains un-

[1] International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, pp. 54-55.

[2] It is worth pointing out that redistribution of income need not make anyone poorer, under the conditions laid down, since total national income would rise. It means only that the bulk of the *rise* in income would be reserved for those in the lower income brackets.

[3] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, p. 48, and literature there cited.

satisfied. Thus chronic unemployment might properly be offset partly by increased public investment, but the chief remedy would usually be to raise the level of consumer spending.

For meeting cyclical unemployment, however, public investment has peculiar advantages. Private consumption expenditure cannot be conveniently varied to offset temporary fluctuations in other types of spending. It normally bears a fairly constant relationship to incomes and employment, and the idea of increasing consumption when incomes fall, and reducing it when incomes rise, will not appeal to many people.[1] It may be desirable on occasion to take measures to maintain the volume of consumer spending, and in some circumstances it may also be advantageous to raise the share of income spent for consumption, as already stated. However, it is difficult to imagine circumstances in which it would be desirable to "postpone" consumer spending, except during war and post-war transition periods. The same is true of ordinary Government outlays for current services. Counter-cyclical variation of private investment is meaningless — if consumption is stable and private investment fluctuates, a cycle will result. Nor is it practicable to vary private investment inversely with consumption, except when full employment already exists and expansion of the stock of capital equipment is desired for its own sake. Finally, if private investment could be completely stabilised, there would probably be no cycles in employment of any great importance, and the problem of compensatory spending would scarcely warrant so much attention. Net expenditures from overseas are not easily controlled; and while counter-cyclical variations of net exports may be desirable for some countries, this clearly is not possible for all countries. If some countries have export surpluses, others must have import surpluses. Thus the only major component of national income that can be conveniently varied in a counter-cyclical manner is public investment.

Stabilisation of the Economy as a Whole or of the Construction Industry Alone?

Some recent writers have argued that "public works" should not be used to stabilise the economy as a whole, but should aim only at stabilising the construction industry.[2] Any effort to offset fluctuations in the economy as a whole by compensatory varia-

[1] Cf. Parliament of the Commonwealth of Australia: *Full Employment in Australia* (Canberra, Commonwealth Government Printer, 30 May 1945), p. 6.

[2] Cf. B. Ruml and H. C. Sonne: *Fiscal and Monetary Policy*, National Planning Association, Planning Pamphlets, No. 35 (Washington, July 1944); and M. Colean: *Stabilising the Construction Industry*, National Planning Association, Planning Pamphlets, No. 41 (Washington, Jan. 1945).

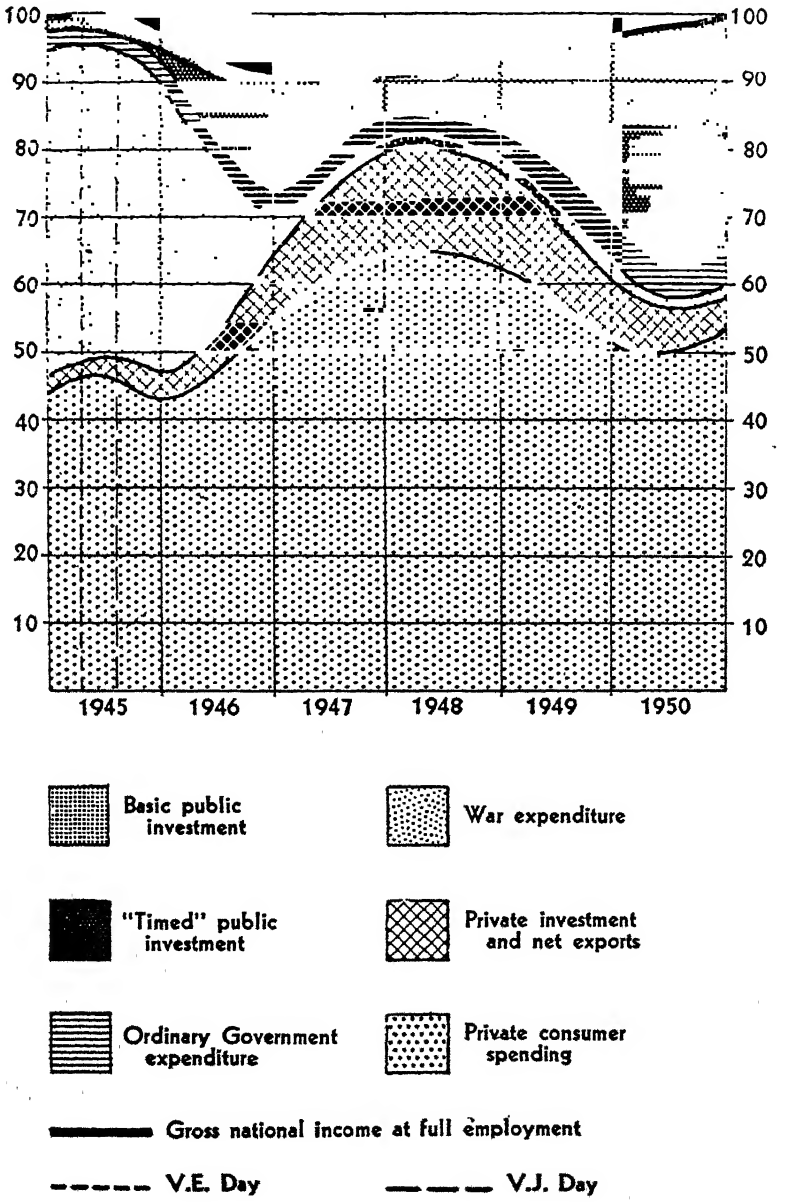
tions in the volume of construction would, they point out, result in enormous fluctuations in the construction industry itself. In order to carry on enough construction to maintain full employment in bad times, the industry would have to be so large that in good times it would have a very high degree of excess capacity; and in severe depressions, so big a programme of construction would be needed that misuse of resources might result.

The argument seems to be at once too narrow and too sweeping. A policy of stabilising the economy by construction projects alone would disorganise not only the construction industry itself but a host of related industries as well. Such a policy would clearly involve an unnecessary waste of resources. Even stabilising the construction industry would have required programmes several times bigger than those actually carried out in the 'thirties; and stabilising the construction and related industries is clearly ambitious enough as an objective for public construction policy. However, in an expanding economy, the construction industry should grow; and stabilisation should be interpreted to mean stabilisation about a rising trend.

On the other hand, the argument clearly rests on the assumption that public works consist only of construction projects. In discussing public works or investment as defined by the International Development Works Committee, the objective of policy can validly be made broader than stabilisation of the construction industry. When purchases of equipment are included in the term, public investment might properly be timed so as to stabilise the equipment industries as well. Moreover, projects requiring relatively little in the way of materials and equipment (reafforestation, handicrafts, road levelling and grading, restocking of fish and game reserves, etc.) can be made subject to violent counter-cyclical variations without disrupting any private industry; and variations in the volume of these projects can make some contribution to the stabilisation of the economy as a whole. If the term "public investment" includes also human improvements or public services, as it did in the usage of the United States Public Work Reserve, the aims of public investment policy might legitimately be more ambitious still. Again, as shown in the next chapter, the volume of public investment need not be varied in order to have a counter-cyclical effect; a substantial counter-cyclical effect can be obtained by varying the method of financing a stable volume of public work.

Finally, the fluctuations of private investment need not always be so enormous. Given a few decades of successful employment policy, the amplitude of cyclical fluctuations would almost certainly

Chart I. Possible Composition of Gross National Income and Timing of Investment in a Hypothetical Excess-Savings Country



diminish. Replacement waves would gradually disappear, and innovations might also proceed more smoothly. As private investment settles down to a more orderly expansion, public investment can do likewise. If, as and when such a development takes place, many of the objections to using public investment to stabilise the economy as a whole will disappear.

Chart I illustrates the general nature of the timing problem in a hypothetical excess-savings country. The exact relationship of the major components of gross national income depicted represents only one of many possible variants; but the general contours are probably what is to be expected. Gross national income at full employment will fall during the transition period, as the result of withdrawals from the labour supply and shortening of hours, and then rise slowly with population growth and technical progress. War expenditures will presumably contract fairly sharply to some normal peacetime level. Private consumer spending will probably rise with the increase in supplies and release of piled-up demand, and then taper off. The same is true of private investment and net exports. The pattern shown in the chart suggests that the public investment programme should consist of two parts: "basic" public investment, which, since it expands but does not contract, can consist of projects of any duration; and "timed" public investment, to meet the temporary unemployment of the transition and the unemployment arising out of exhaustion of piled-up demand, which should consist of projects that can be finished in a short time. This chart must not be regarded as a forecast of events in any particular country; each Government will no doubt make its own forecasts, subject to constant revision in the light of changing data.

PART II

FINANCIAL ASPECTS OF TIMING PUBLIC INVESTMENT

CHAPTER IV

PRINCIPLES OF COUNTER-CYCLICAL FINANCING

In the Public Works (National Planning) Recommendation, 1937, the International Labour Conference considered that, among the financial measures necessitated by the policy of counter-cyclical timing of public works, the following should receive special consideration:

(*a*) the placing to reserve in periods of prosperity of the resources necessary for carrying out works prepared for periods of depression;
(*b*) the carrying forward of unexpended balances from one year to another;
(*c*) restricted borrowing by public authorities in periods of prosperity and accelerated repayment of loans previously contracted;
(*d*) the financing by loan in periods of depression of public works likely to stimulate economic recovery, and, generally speaking, the application of a monetary policy which will make possible the expansion of credit required at such a time for the speeding up of the public works and which will ensure the lowest possible rate of interest on the loans.

Further studies of the problem of financing public investment have been made in the meantime, and there have been some war experiences having a bearing on its solution. The result is that the relative utility of these various financial policies is probably not regarded today in exactly the same way as it was in 1937. In this Part of the present Report, the financial aspects of timing public investment are re-examined in the light of post-war needs.

The major post-war economic problem in virtually all countries will be to maintain national income at the full employment level, and nevertheless to prevent inflation. Since all incomes are derived from the sale of goods and services of some kind, maintaining national income is equivalent to maintaining the total value of goods and services produced and sold. The most significant categories of sales are the sale of consumers' goods and services in the home market (consumption), the sale of capital goods to private firms in the home market (private investment), the sale of goods and services to the Government (Government expenditures), and the sale of goods and services abroad (exports). All income earned must spring from one or another of these four categories of sales.

The Budget as an Instrument of Economic Control

From this simple but fundamental fact, it is obvious that increases in Government expenditures on goods and services can be used to offset a deficiency in private spending which might otherwise lead to a fall in income and employment. Conversely, decreases in Government expenditures can be used to offset excessive private spending which might otherwise lead to inflation.

However, the effects of public expenditures depend very much on how the expenditures are financed. The level of consumer spending depends mainly on the level of disposable income, past experience having shown a remarkably stable relationship between this income and consumer spending. Disposable income is equal to gross national income less depreciation allowances, undistributed profits, business taxes, and personal income taxes. Other things being equal, therefore, any reduction in business or personal taxes increases disposable income, and thus raises the level of consumer spending. Any increase in sales to consumers that is not offset by reductions of other sales will raise the level of gross national income and of employment. Conversely, higher taxes tend to reduce consumer spending, and so to depress the level of gross national income and of employment. In addition, high taxes on business or personal income may discourage private investment.

If public investment is tax financed, it may nevertheless increase private spending if taxes fall on the upper income groups, who save large portions of their income, and if the expenditure raises incomes of the lower income groups, who spend nearly all their income. Moreover, if the programme is carried through in the proper atmosphere of co-operation with private enterprise, even tax-financed public investment may stimulate private investment in the production of materials and equipment required directly or indirectly for public work projects. This sort of effect is more certain if the programme is financed by borrowing, however, since in peacetime purchases of Government obligations are more likely to come out of savings or monetary expansion, and less likely to come out of consumption or investment, than tax payments are.

If a Government were committed to an annually balanced budget under all conditions, so that the positive secondary effects of public investment were limited to those consequent upon a redistribution of income from savers to spenders, both the average volume and the fluctuations in public investment would have to be much greater than if the financing as well as the magnitude of public investment were variable. Given large deflationary gaps, the scale of public

investment required to prevent unemployment with a balanced budget might be very large indeed. Conversely, the extent to which public investment must be cut to prevent inflation when private spending reaches dangerously high levels will be much greater if there is no possibility of obtaining a budget surplus, than if a shift from borrowing to taxing is feasible.

This point can be illustrated by two examples, one for the United States and one for the United Kingdom (see tables 3 and 4). In

TABLE 3. ESTIMATED COMPOSITION IN 1950 OF FULL-EMPLOYMENT GROSS NATIONAL PRODUCT IN THE UNITED STATES

(*$1,000 million, at 1943 prices*)

Component	(*a*) With balanced budget	(*b*) With moderate deficit
Consumer expenditures	116.3	132.6
Private investment	28.0	28.0
Exports *less* imports	2.5	2.5
Government expenditures	46.2	26.9
Gross national product	193.0	193.0
Deficit	0.0	9.5

Source: Based on Arthur SMITHIES: "Forecasting Postwar Demand", in *Econometrica*, Jan. 1944.

(*a*) Smithies' "Table 3, Assumption A" (balanced budget, high taxes). (*b*) Smithies' "Table 2, Assumption C" (moderate deficit, low taxes), with Government expenditures instead of private investment treated as the residual.
A 40-hour week is assumed in calculating the full-employment "gross national product".

TABLE 4. ESTIMATED COMPOSITION IN 1938 OF FULL-EMPLOYMENT GROSS NATIONAL PRODUCT IN THE UNITED KINGDOM

(*£ million, at 1938 prices*)

Component	(*a*) With balanced budget	(*b*) With moderate deficit
Consumer expenditures	3,135	4,045
Private investment	460	460
Exports *less* imports	−130	−130
Government expenditures	1,710	800
Gross national product	5,175	5,175
Deficit	0	340

Source: N. KALDOR, *loc. cit.*, p. 363, table 46.

(*a*) Kaldor's "Route II" (balanced budget with high taxation). (*b*) Kaldor's "Route III" (1938 Government expenditures and low taxes).

each case, an estimate was made of gross national product at full employment for a given year. Next, the level of consumption was estimated on two alternative assumptions with regard to taxes: (*a*) that taxes are high enough to balance a substantial Government budget; and (*b*) that taxes are low enough to produce a deficit with a relatively small budget. Consumer expenditures are considerably higher with the low taxes, making possible the attainment of full employment with a very much smaller volume of Government expenditures. It should be noted, moreover, that the adverse effects of higher taxes upon private investment are not considered in these estimates. If they were, the difference in the volume of Government expenditures needed in the two cases would be still greater.

Full employment might be achieved without a budget deficit, but in some countries and at some times this might require a public investment programme so large that it would encroach upon traditional fields of private investment in order to avoid misuse of resources. Such encroachment might displace a certain amount of private investment, necessitating still further encroachment, and so forth. The extreme limit of such a process would be complete socialisation of the economy. Thus deficit financing is in one sense more "conservative" than a balanced budget; with a given deflationary gap, the scale of public enterprise needed to fill it will vary directly with the extent to which the costs are covered by current revenues.[1]

The process effects of deficit financing will vary inversely with the extent to which Government borrowing reduces private investment. Government borrowing might restrict private investment in any of three ways. First, because of misunderstanding of the nature and effects of a rising national debt, the mere fact that deficits add to national debt may alarm business men. This reaction can be removed by education; and a brief discussion of the nature of national debts is provided below.[2] Second, investors may be completely free of unfounded fears concerning national debts, and nevertheless be discouraged by actual or anticipated increases in taxes to service the debt. The importance of this reaction depends upon two factors: the tax structure and the rate of interest at which Governments borrow. If taxes imposed to finance additional interest are of the sort that do not enter into prime costs and do not

[1] Cf. Alvin HANSEN: "Three Methods of Expansion through Fiscal Policy", in *American Economic Review*, June 1945; and Trygve HAAVELMO: "Multiplier Effects of a Balanced Budget", in *Econometrica*, Oct. 1945.

[2] "Confidence, and therefore business activity, can be impaired not only by injudicious Government measures, but also by sound measures, the purpose of which is not clearly explained or understood. Governments have a responsibility . . . to explain the purpose and intended effects of the measures they adopt — where that is necessary, to educate." (LEAGUE OF NATIONS, *op. cit.*, p. 136.)

affect the return on new private investment, the adverse effects will be very small.[1] Also, the lower the average rate of interest on Government obligations, the less taxes must be collected to service additional debt. Consequently, it is desirable that public investment programmes should be financed at low rates of interest, and monetary policy designed accordingly. Third, if money is tight, borrowing by the Government may raise long-term interest rates, especially if the borrowing is done on long-term, and so may diminish the volume of private investment. This result can also be avoided by appropriate monetary policy. Not only should the rates on Government obligations be kept from rising too high, but a plentiful supply of credit at low rates should be provided for private investment. To maintain a continual flow of cheap credit to all channels of investment, an expansionary central bank rediscount and open market policy may not be enough. In addition, it may be necessary to set up special credit institutions, such as the Industrial Development Bank in Canada, the Finance Corporation for Industry and the Industrial and Commercial Finance Corporation in the United Kingdom, the Reconstruction Finance Corporation in the United States, the Industrial Finance Department of the Commonwealth Bank in Australia, and so forth, to provide funds for firms of a type and size not adequately served by existing financial institutions.[2]

The volume of exports and imports may also be altered by public investment. To the extent that public investment raises national income, it will tend to increase imports, and unless this leads in turn to higher incomes in other countries and thereby to larger exports to them, the result will be a smaller increase in the sale of home-produced goods and services than would otherwise occur. The "leakage" of increases of income into imports tends in and of itself to diminish the secondary effects of public investment. In the long run the contribution of higher imports to world prosperity, and thereby to higher exports of all countries, might more than offset these leakages. However, just because of the possible leakage of income into imports, and the accompanying adverse effect on the balance of payments, it is extremely important that the public investment policies of the different countries should be co-ordinated with one another. All possible effects on the other components of national income must be considered in public investment policy. Since these effects depend partly upon the method of financing and upon

[1] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, Ch. V, and the literature there cited.

[2] For a brief description of these and similar institutions, see *Ibid.*, Ch. V.

credit conditions, public investment policy cannot be separated from fiscal and monetary policy.

Self-Liquidating Projects

In this connection, a word may be said about the relative advantages and disadvantages of self-liquidating public works. Self-liquidation has the considerable advantage of making it possible to use the market as a guide to determine the proper scale of operation of a public enterprise. Given a satisfactory distribution of income, the optimum allocation of resources is obtained if all firms, whether publicly or privately owned, increase output precisely to the level where the price obtained just covers the additional cost of producing one more unit of output. Unless public services are sold for a price, this criterion cannot be used.[1] On the other hand, selling the output of public enterprise for a price does not reduce either the total volume of Government expenditures or the budget deficit required to maintain full employment. The very fact that some income is being absorbed by the project through the sale of services means that less income is available to consumers for expenditure on other goods and services; consumer spending for privately produced goods and services is reduced by selling the publicly produced goods and services. In other words, the sale of services by the Government has precisely the same effect on the level of national income as the collection of taxes. To the extent that Government expenditures on public investment are offset by current revenues *of any sort*, either the volume of public investment must be expanded or deficits from other Government operations must be increased.

The relative desirability of self-liquidating projects therefore depends less on financial considerations than on the attitude of the community to public and private investment, the traditional scope of public enterprise, and the distribution of income within the community. The more favourable the attitude towards public enterprise, the stronger is the argument for enlarging the role of self-liquidating projects in the programme, and for undertaking the larger volume of Government expenditures that will accordingly be needed to secure full employment. Similarly, the wider the traditional scope of public enterprise, the greater is the possibility of expanding the volume of self-liquidating (and total) public investment without misallocating resources. Finally, the more equitable the distribution of income, the more faithfully will effective demand

[1] The term "self-liquidating" is slightly ambiguous in this context. Satisfying this criterion might mean operating at a loss in some cases, and at a profit in others.

reflect the true social desirability of various uses of resources, and the more desirable is it to use the market as a guide to the proper scale of operations.

Flexibility of Fiscal Timing

In Part III below, the many obstacles to physical flexibility of public investment are pointed out. On the whole, fiscal timing of public investment is easier than physical timing. There are no barriers to shifting from borrowing to taxing and back again except the necessity of obtaining legislative authority to do so. Thus if any significant part of a public investment programme is being undertaken for its product effects, a considerable measure of economic control can be exerted without altering the physical volume of public investment at all, merely by changing the proportion of public investment covered by current revenues. When there is danger of deflation, a larger proportion of public investment can be deficit financed; and conversely, if inflation threatens. Indeed, if the public investment programme were sufficiently large, economic stability could be maintained by fiscal timing alone. Of course, the maintenance of economic stability in this manner might be accompanied by misallocation of resources: a greater contribution to social welfare might be made if more resources were utilised by the private sector of the economy, and fewer resources by the public sector. An ideal public investment policy would combine both the physical and the fiscal aspects of timing, so as to obtain an optimum allocation of resources, as well as stability at full employment.

In capital-scarcity countries, prevention of inflation while encouraging national development and reconstruction will be the primary aim of fiscal policy for several years.[1] In excess-savings countries, fiscal timing after the war can be divided into three stages; the reconversion period proper, the period of post-war "boom", and the period of primary post-war recession. During the first of these periods, fiscal policy should stimulate investment for reconversion purposes to the upper limit imposed by the availability of resources. At the same time, it should restrict consumer spending to the upper limit imposed by the availability of consumers' goods and services. To the extent that reconversion and current production compete for scarce resources, some system of priorities and allocation become necessary. Most excess-savings countries naturally find it desirable to give first priority to reconversion, since reconversion must precede an increased con-

[1] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, Ch. II-VII inclusive.

sumption of many goods and services.[1] Since most belligerent countries very large current deficits at the end of the war, the aim of budget policy will be to reduce the deficit by the amount by which private investment and the export surplus can and will be increased, or savings decreased. Deficits can of course be cut by a combination of reduced Government expenditure and lower taxes. It is possible that even in this period public investment may have to be partly deficit financed if full employment is to be maintained.

During the post-war boom period, assuming that reconversion is substantially complete, restrictions on consumption can be removed, while the stimulus to private investment is continued. In this stage it seems likely that the deficit can be reduced, and possibly a surplus produced, without giving rise to unemployment, by cutting the public investment programme, by financing a large share of it from current taxation, or by a combination of the two.

Once the exceptional spending for reconversion, for replacement of plant and equipment, and for durable consumers' goods has been exhausted, it may be necessary to resort to increased deficit financing again. The physical volume of public investment could be increased, or tax rates could be reduced so that a smaller share of public investment is covered by current revenues.

Debt Policy

Since debt policy is an integral part of public investment policy, it may be well to state at this point a few fundamental principles about the nature and significance of public debts.

The Nature of Public Debt

Misunderstanding of the nature of public debt sometimes arises from a projection of ideas about personal debt into the field of Government finance. However, even on the level of personal finance, a debt is really a cause for worry only if it is large relative to expected income during the period in which it must be paid off. And a nation, unlike an individual, does not expect to die, or to lose its earning power. The earning power of a nation is its productive capacity, and this cannot quickly disappear. A nation's productive capacity may fall below the maximum because its Government permits resources to be exhausted or to stand idle, because foreign markets are closed to it, because its people lose their spirit of enterprise, or because war or disaster destroys means

[1] Cf. International Labour Conference, 27th Session, 1945, Report II, *op. cit.*, Ch. II, IV, and V.

of production. Yet it is clear that a nation has a permanence of life and of earning power which makes any comparison of national with personal finance misleading.

In other cases, fear of mounting national debt has its origin in failure to distinguish between an external and internal national debt. People associate Government debt with the difficulties that confronted countries with heavy external obligations in the inter-war period, where currency depreciation and inflation, on the one hand, or exchange stability at the price of deflation and unemployment, on the other, seemed to be the only alternatives. Without question, a large external debt presents a real problem, especially if borrowing from abroad does not increase the productivity of the debtor, or if the commercial policy of the creditors prevents increased exports to them. In order to meet its foreign obligations, a Government must first obtain a surplus of revenue over expenditure in its own currency. It must then transfer this surplus to the creditor country in a form which that country will accept. If public investment is to be financed by foreign borrowing, great care must be used to choose projects that will enhance the capacity to export. In addition, it would be well to make sure in advance that the creditor country will permit repayment in goods and services, directly or through third countries.[1]

However, no transfer problems need arise in the case of internal debt. Payments of interest and principal are themselves part of gross national income, and the nation as a whole cannot be made poorer by the growth of internal debt as such. But the distribution of the debt relative to the distribution of the tax burden is indeed a matter of serious import. In most countries — and indeed in any country with both debts and commodity taxes — the payment of taxes goes much farther down into the low income groups than the receipt of interest on Government obligations. Under such conditions, servicing the public debt redistributes income from the low to the higher income groups. However, this effect can be avoided by altering the tax structure, or by distributing Government debt more widely.[2]

In so far as analogies between public and private finance are helpful at all, the closest analogy to a national debt would be the debt of a private corporation. A corporation, like a nation, does not expect to die. The outstanding debt of a corporation, as represented by stocks and bonds, is regarded merely as the opposite side of the balance sheet from the plant, equipment, and other assets that the debt represents. A corporation regards an increase

[1] *Idem*, Ch. VIII.
[2] Cf. LEAGUE OF NATIONS, *op. cit.*, p. 181.

in debt as the counterpart of expansion of its plant and equipment, undertaken to deal with a greater volume of business; and it knows that a corporation is debt-free only when bankrupt. No corporation accountant, moreover, would speak of a "deficit" of ninety million dollars in a year in which operating surplus was ten million dollars and a hundred million dollars was spent on a new factory; yet this is what is sometimes done in speaking of national deficits. There is a tendency to compare *total* outlay with current revenue, instead of making a distinction between operating expenses and capital outlays according to accepted accounting practice.

The part of the national debt which is invested in earning assets, such as power plants or commodity stocks or post offices, is clearly identical with a private corporation's debt. Another part, such as highway expenditures, yields an indirect return to the Government, such as increased gasoline taxes through heavier motor traffic, as well as a direct return to the community. When national resources are developed or protected, by soil conservation, for example, it is the income of citizens that is directly affected. Sometimes the benefit accrues, not in the form of money, but in the form of services, as in the case of schools and national parks; these services, by increasing the health and efficiency of the population, raise the nation's productivity. However, the asset which corresponds to the bulk of most national debts is the ability of the people to pay taxes. As we have seen above, debt incurred to prevent unemployment tends to raise national income, and so to raise Government revenues even if tax rates are unchanged.

Budget Organisation

Some of the misapprehensions concerning national debts might be removed if Government books were kept in closer accord with commercial accounting practice. Budgets might distinguish ordinary from capital outlays, and current revenues might be compared only with ordinary expenditures in calculating the current surplus or deficit. A budget is simply a list of expenditures approved for the next fiscal year, perhaps accompanied by a statement of measures proposed to raise the revenue needed to meet them. Ordinary expenditures consist of those items that recur year after year, such as interest payments, administrative salaries, and so forth. The proposed ordinary expenditures for the next fiscal period constitute the "operating budget". Extraordinary expenditures consist of lump-sum outlays which do not recur in every budget period, and which are made for capital improvements or public services yielding utility to the community over a period of time longer

than a single budget period. They are, in other words, outlays that result in the acquisition of an *asset* by the public. Proposed extraordinary expenditures for the next fiscal period comprise the "capital budget". Any debt service ensuing from financing extraordinary expenditures would be carried over into the operating budget.

Revenue-yielding assets, such as municipally owned public utilities, might have separate budgets of their own, which could be called "annexed budgets". Deficit or surplus items from the operating budget of these revenue-yielding assets may be carried over into the main operating budget. As argued above, such enterprises should operate on the scale where the price obtained just covers the additional cost of producing an additional unit of output, unless it is considered desirable to operate on a larger scale, and to cover losses from general reserves, as a means of redistributing income, as is done in the case of subsidised public housing projects. To run a public enterprise for profit is equivalent to imposing a tax on consumers of the service.

The capital budget is balanced by definition; the debt incurred is just equal to the value of assets acquired. The operating budget, while formally in balance, may include surplus or deficit items. Net losses on public utilities might give rise to a deficit in the operating budget. An excess of ordinary expenditures over current (non-loan) revenue would also lead to a deficit in the operating budget. While such deficits in any one year are not serious, and may even be desirable in depression years, it would seem that the operating budget should balance over the business cycle as a whole. The use of such a canon of "soundness" would require Governments to combat *chronic* unemployment through the capital budget. Since items in the capital budget consist of assets of some kind, requiring the operating budget to be balanced cyclically imposes some obligation on the Government to make sure that *continuous* outlays for employment purposes should result in distinct contributions to national development and welfare as well. Thus the budget can still serve its purpose of providing a check on expenditures, without restricting the Government in its efforts to maintain full employment.

Several countries have made use of a double or multiple budget system. Some of them, unfortunately, have misused the capital budget to hide deficits on current account. When a double or multiple budget system is used, it is essential that the system as a whole should report all income and outlays, that the various subdivisions should be related in a logical manner, and that the system should be comprehensible to the citizens.

Canada has made a budgetary distinction between ordinary and capital expenditures ever since Confederation in 1867. Until 1920, it was the practice in Canada for Finance Ministers to declare the budget balanced if ordinary expenditures did not exceed total receipts, even though total expenditures might be well in excess of revenue. The budget shows a surplus in fifty of the sixty-six years following 1867; but if total outlays had been balanced against total revenues, surpluses would have appeared in only fifteen of these years. Premier Tupper produced a surplus in 1886-87 by crediting receipts from the federal domain to the "ordinary" budget, and by charging expenditures in that field to the "extraordinary budget". This example was followed by succeeding Prime Ministers. Since 1920, although the distinction between ordinary and capital expenditures has been retained, the Finance Ministers have balanced total expenditures against total revenue in reporting deficits or surpluses.[1]

Denmark has divided its expenditures into "current" and "capital" items since 1927. The criterion for a capital item is that it should represent an outlay which creates a material asset of durability greater than one year. Acquisition of shares of semi-private or public enterprises and expenditure on non-self-liquidating projects like schools are included in the capital budget as well as income-yielding assets. The ordinary budget of each department is charged with the depreciation and interest on the durable equipment which it uses. The ordinary budget as a whole is balanced by an item which is regarded as an addition to or a deduction from the State's net assets. In addition to loan receipts, the income side of the capital budget shows receipts from the inheritance tax. The current budget carries the interest and depreciation charges on public investment projects in the capital budget. The Danish public accounting procedure thus includes all State properties, and permits annual presentation of a statement of the national debt and the net value of national assets. If the ordinary budget produces a surplus in any one year, the balance shows up as a net addition to the net assets in the State aggregate asset account; a deficit in the ordinary budget would reduce the net assets.[2]

In France the "extraordinary budget" was abandoned in 1922. France still has numerous autonomous budgets, but with little logical consistency in their organisation. The Government mo-

[1] Cf. J. A. MAXWELL: "The Distinction between Ordinary and Capital Expenditure in Canada", in *Bulletin of the National Tax Association*, Vol. XIX, No. 5, Feb. 1934.

[2] Cf. Brinley THOMAS: *Monetary Policy and Crises* (London, Routledge, 1936), pp. 125 *et seq.*

nopolies in matches and powder are handled through the regular budget; but the post office, telegraph, and telephone monopolies, as well as several minor State monopolies, have their own budgets. The tobacco monopoly was originally autonomous, but since 1927 it has been managed by the *Caisse d'Amortissement*, which was established in 1926 as an autonomous fund with its own bonds, and which also pays the interest of the national defence bonds (*Bons de la défense nationale*). The annexed budgets always appear balanced, deficits being covered by a sum coming from the general budget, and surpluses being credited to the general budget. Capital expenditures after 1927 were financed in part by Treasury loans and in part from profits on State monopolies.[1]

Sweden adopted a double budget in 1937, which went into operation for the fiscal year 1938-39. It is essentially a formalisation of what was actually done during the depression of the 'thirties.[2] In fact, Sweden had divided its budget into ordinary and special budgets before 1938. For example, the deficits of 1931-32 and 1932-33 were covered partially from special reserve funds, such as the reserves of the wine and spirits monopoly, and during the whole depression period the proportion of total expenditures carried in the loan budget grew considerably.[3] The new system provides for a current budget which is to be balanced over a five-year cycle, permitting deficit financing in depression; an investment budget that balances by definition; and the authorisation for a given sum to be borrowed and spent in case of a business recession.[4]

National Debt and National Bankruptcy

While the term "bankruptcy" is somewhat ambiguous when applied to a whole nation, the holders of Government obligations might regard a failure to honour them as "national bankruptcy". However, meeting the obligations of a Government does not imply liquidating the Government's debt. Nations (and private corporations) do not, as a rule, plan to "get out of debt". In many

[1] Cf. R. M. HAIG: "The National Budgets of France, 1928-37", in *Proceedings of the Academy of Political Science*, Jan. 1938.

[2] See below, Ch. XIII.

[3] Cf. *Fortune*, Sept. 1938: "That Marvellous Swedish Budget", by the editors, in collaboration with Prof. Gunnar MYRDAL, especially pp. 134 and 138 *et seq.* See also, Brinley THOMAS, *op. cit.*, pp. 207 *et seq.*

[4] For further discussion of the capital budget, see: Alvin H. HANSEN, *Fiscal Policy and Business Cycles* (New York, Norton, 1941), Ch. X: "Budgeting Theory and Practice", and the literature there cited; R. A. MUSGRAVE: "The Nature of Budgeting Balance and the Case for the Capital Budget", in *American Economic Review*, June 1939; and Spencer THOMPSON: "The Investment Budget", in *Public Policy*, edited by C. J. FRIEDRICH and Edward S. MASON (Cambridge, Mass., Harvard University, Graduate School of Public Administration, 1941), Vol. II, Ch. II.

countries, certain Government obligations have no maturity dates whatsoever. Such permanent obligations have long been regarded as the safest of investments, thickly edged with gilt. Other obligations should, of course, be honoured as they come due, but new issues can be sold as old ones mature. During wars or other emergencies, new issues may be sold at a considerably faster rate than old ones mature, so that the debt rises steeply. At other times, when prosperity rules, new obligations can be floated at a slower rate than old ones come due, and the balance is covered out of tax receipts. Accordingly, at such times the total debt can be reduced. So long as a Government has a market for its new obligations, there is therefore no danger of "bankruptcy". With existing relations between treasuries and banking systems, virtually all Governments have a ready market for their bonds and bills. During the war, the belligerent nations borrowed amounts far in excess of anything ever undertaken before or of anything likely to be needed in peacetime; and not one of them went "bankrupt". Indeed, despite huge wartime borrowing, the credit of many national Governments, as indicated by the rates of interest at which they can borrow, is better at the present time than ever in their history.

National Debt and Inflation

If new Government obligations are floated during a depression, when there is widespread unemployment and excess industrial capacity, and if the obligations are bought by individuals with bank balances which they would otherwise hold idle, the immediate effect of the purchase of Government obligations is a transfer of ownership of bank deposits from individuals to the treasury. If the treasury uses these funds to pay men to work on public projects — men who would otherwise be unemployed — these men spend their wages for rent, groceries, clothing, and so forth. The transfer of ownership of deposits from people who hold them idle to people who spend them, through the process of Government borrowing and spending, results in a more rapid turnover of money — a rise in the "velocity of circulation". This increase in demand for goods and services, in itself, has an inflationary tendency. However, in a period of widespread unemployment, this tendency is offset by an increased production of the goods and services demanded. Indeed, since in a depression period most firms will be operating under decreasing costs, it is conceivable that output in general will rise faster than demand in general, and prices will fall. Thus no net inflation need take place. If, however, the same process takes place in a period of full employment, the increase in

effective demand cannot be offset by any increase in output in general, and net inflation will result.

If the Government obligations are bought, not by individuals, but by the banks, the net effect is an expansion in the volume of deposits. As in the case of increased velocity of circulation resulting from individual purchases of Government obligations, this expansion of deposits is in itself inflationary. In a depression period, these inflationary effects may be offset by an expansion of output as a whole. In a period of full employment, output can increase only as technique is improved, and inflation is the likely result.

Thus the process of increasing the Government debt may or may not be inflationary. In general, it will not be inflationary in a period of unemployment, but will be inflationary in a period of full employment.

Finally, as pointed out in Chapter II, a good deal of the wartime increase in national debts has been placed with people and firms who do not normally invest such large sums in this manner. Liquidating these holdings and expending the proceeds could lead to post-war inflation if the supplies of goods and services cannot be increased fast enough to meet the increased demands. When such a situation exists, price controls may be necessary for economic stability.

The closer a country comes to full employment, the greater the danger of inflation arising from a sudden drop in willingness to hold bonds or cash. The more bonds and cash are in existence, the more violent can be the rise in prices if people suddenly refuse to hold such liquid assets. Thus the more successful a country is in its employment policy, the more wary must it be of inflation.

National Debt and the Tax Burden

Mounting national debts are sometimes feared because it is felt that they must lead eventually to higher taxes. However, there is no necessary relation between higher debts and higher tax rates. Even with the enormous increases in national debts that have taken place during the war in the United States and the United Kingdom, Canada, and Australia, debt service as a percentage of national income has risen very little because of the accompanying rise in national incomes and fall in interest rates. Reckoned as a percentage of the tax revenues that would be obtained with pre-war tax rates and present incomes, the debt service has shrunk considerably in these countries. Since most tax structures are progressive, tax collections at constant rates rise more than proportionately to national income. Thus, so long as national debt does not increase much faster than national income, ser-

vicing the debt from current reserves requires no increase in tax rates.[1]

If budget deficits are necessary to maintain full employment even in prosperity, the debt situation becomes more complicated. For then the rise in national income at constant prices is limited to the rate at which productivity increases with population growth and technical progress. Debt may then outrun income, and servicing the debt from current revenues may require higher tax rates. At some point, further increases in taxes may be self-defeating, since they may limit private investment or consumption. Yet if Government expenditures are reduced, national income will tend to fall by a multiple of the reduction, tax collections will fall in still greater proportion, and a vicious circle of deflation may result.[2] Controlled monetary expansion would be one way out, and would be preferable to deflation and depression. However, as can be seen from Chapter III, where private spending is insufficient to maintain full employment even in the best of times, economic policy should be devoted to increasing the level of consumer spending, and so narrowing the savings-investment gap, as well as to filling the gap by public investment.

This survey of the nature and significance of internal national debts has revealed two dangers in their growth: they may lead to increased maldistribution of income; and the closer the approach to full employment, the greater the incipient danger of inflation. Neither of these dangers constitutes an argument against financing public investment by borrowing whenever unemployment due to a deficiency of effective demand exists or would otherwise appear. They do constitute an argument for gearing the tax structure to the debt structure, and for an inverse relationship between deficits and employment.

Reserves *versus* Deficit Finance

One of the measures recommended for special consideration by the International Labour Conference in 1937 was placing the necessary financial resources to reserve in periods of prosperity so that they would be available for public works in periods of depression. Sweden has actually made provision for this sort of financing. Against this view, it could be argued that the use of

[1] Cf. Evsey Domar: "The 'Burden of Debt' and the National Income", in *American Economic Review*, Dec. 1944.

[2] Some economists would argue that so long as there is no threat of inflation, the debt service can itself be met by additional borrowing. Cf. A. P. Lerner: "Functional Finance", in *Social Research*, Feb. 1943, and S. E. Harris: "Postwar Public Debt", in *Postwar Economic Problems* (edited by S. E. Harris, New York, McGraw-Hill, 1943). However, this view is not universally accepted.

reserves implies a cycle of boom and depression around a "normal" position of full employment; since in fact full employment has in the past been a rarity in economically mature countries, and over-employment is a feature of war periods only, there may be few years in which the Governments of these countries could accumulate reserves without depressing employment to an undesirably low level. There is no reason to suppose that incipient over-employment will appear in enough years to permit an accumulation of reserves large enough to meet the expected long periods of under-employment. Thus under the conditions stated, the use of reserves and of deficit finance are not really alternatives; over the long haul, it will be necessary to make net additions to national debts in any case.

If Government reserves are kept in the central bank, and the central bank has a fixed legal or customary gold reserve ratio, the accumulation of Government reserves may have extremely deflationary effects. The process involves a transfer of deposits with the central bank from the commercial banks to the Government, thus drawing down the reserves of the commercial banks and compelling them to recall loans. If the reserves are of any size, a monetary crisis might easily result. If Government securities are included in the reserves of the central bank, this result can be avoided by purchasing securities from the commercial banks to restore their reserves. Such monetary problems will not arise if the central bank is not required to hold a fixed ratio of reserves against its deposits, or is not required to hold any reserves against Government deposits, or if the Government is in a position to provide the central bank with reserves at will, or if the central bank can provide the commercial banks with reserves at will.

Finally, the financial position of a Government is not stronger if it depletes reserves than if it borrows. Only the relationship of potential revenues to necessary expenditures is relevant to a Government's financial position. Potential revenues are the same under both systems of financing. As for expenditures, it is true that if a Government borrows, it must service the debt; but if it depletes reserves, it must replenish them. There is nothing more intrinsically "sound" about the reserve system than about borrowing from the public in depression and reducing debt whenever conditions permit; and while borrowing from the public has its own impact upon the monetary system, it is on the whole less complex than the effects of building up or running down reserves.

Borrowing from the Banks versus *Borrowing from the Public*

There is nothing basically unsound about borrowing from the banking system rather than the public, if unemployment exists

and the Government wishes to avoid the higher interest burden usually involved in public borrowing. The Australian Government, indeed, tends to lean towards this kind of financing. In its White Paper on *Full Employment in Australia*, it points out that "financing by the Commonwealth Bank can be used to advantage up to the limit of available men and resources"[1] — that is, so long as unemployment exists. It is not a matter of great import whether the Government borrows from the central bank directly, or borrows from the commercial banks and enables the central bank to replenish their reserves; however, borrowing from commercial banks usually involves somewhat higher interest rates.

Conclusions

The timing of public investment to combat unemployment requires careful consideration of fiscal as well as physical aspects, and also requires integration of public investment with monetary policy. In general, public investment undertaken at a time when unemployment exists or threatens should be financed by deficits. If the Government wishes to minimise interest costs, it may choose to borrow from the banking system rather than from the general public. Public investment should be financed by reserves only in situations where reserves can be accumulated without causing unemployment or monetary disturbances. Public investment should be undertaken in conjunction with a monetary policy that will provide easy money at low rates of interest for private investment. Public investment in times of prosperity should be financed as far as possible out of current tax revenues, by sale of services, or from other current revenues. In so far as such a policy leads to additional interest payments on national debts, the taxes collected to meet them should, as far as possible, be of a sort that does not add to prime cost or reduce the marginal return on private investment. In order to present to the public a clearer picture of the effects of public investment upon the Government's financial position, a distinction should be made between the operating and the capital budget, and self-liquidating Government enterprises might have separate annexed budgets.

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[1] *Op. cit.*, p. 13.

CHAPTER V

FINANCING BY INTERMEDIATE AND LOCAL GOVERNMENTS

The great bulk of normal, peacetime public investment in economically advanced countries is undertaken by intermediate and local governments, (henceforth grouped together as "local" governments).[1] In the United States, for example, the Federal Government spent an average of $188 million per year on new construction during 1925-1929, while State and local governments spent $2,104 million.[2] In Great Britain, the local authorities are responsible for the larger share of public investment in virtually every kind of capital improvement except post offices. In the late 'twenties, central Government expenditures for capital goods averaged £60 million per year, as compared with nearly £210 million for the local authorities.[3] In Canada, Federal Government outlays for public investment in 1929 were $78 million, as compared with outlays of $177 million by provincial and municipal governments.[4] At that time, apart from the Canadian National Railways, the Federal Government owned capital improvements valued at $553 million, while the provincial governments owned $904 million and the municipal governments $1,142 million of such assets.[5] The Australian Commonwealth Government spent £8 million on public works in 1929, the State Governments over £30 million, and the local authorities £26 million.[6]

[1] As used hereinafter in this Report, the term "local government" will apply to any governmental authority with jurisdiction over an area smaller than a whole country: it will therefore cover states, provinces, cantons and other "intermediate" governments; cities, towns, counties, and other "municipal" governments; and regional authorities with jurisdiction over an area including several intermediate or municipal political units.

[2] J. K. GALBRAITH and G. G. JOHNSON: *The Economic Effects of the Federal Public Works Expenditures, 1933-1938* (National Resources Planning Board, Washington, D.C., 1940), p. 18.

[3] R. F. BRETHERTON, F. A. BURCHARDT, and R. S. G. RUTHERFORD: *Public Investment and the Trade Cycle* (Oxford, Clarendon Press, 1941), p. 407, table 10.

[4] DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation: A Study of Public and Private Investment Outlay, 1926-1941* (Ottawa, King's Printer, 1945), p. 26.

[5] *Report of the Royal Commission on Dominion-Provincial Relations*, Book III: *Documentation* (Ottawa, King's Printer, 1940), p. 16.

[6] COMMONWEALTH BUREAU OF CENSUS AND STATISTICS: *Official Year Book*.

The contribution of public investment to economic stability and development in the post-war period depends more upon adequate planning by local governments than on the plans of central Governments. Central Governments can provide leadership and financial assistance, but ultimately effective public investment policy requires properly planned, timed, and financed investment programmes at the intermediate, and even more at the municipal, level.

Limits of Fiscal Timing by Local Governments

Local governments are, of course, more limited in their ability to undertake counter-cyclical fiscal policies than central Governments. A large share of their expenditure is of a sort that cannot and should not be varied to any great extent. It would be ill advised to make drastic cuts in fire and police protection, education, public health, and similar services, merely because the general level of national income is high. There are also obvious disadvantages in postponing construction projects when they are as vital to community welfare as schools, hospitals, sewers, housing, and so forth.

Most local governments are also at a disadvantage with respect to the revenue side of fiscal timing. The most productive and progressive tax sources are usually pre-empted by central Governments, leaving local governments to rely heavily upon real estate and commodity taxes. Except in cases where a reduction in the consumption of particular commodities is clearly advantageous, commodity taxes are socially undesirable at all times, because they absorb a much larger share of the incomes of the poor than of the rich. Even from a purely economic point of view, there is little to be said for them. In periods of unemployment, they have particularly deleterious effects, reducing consumption directly and investment indirectly.

Real estate taxes tend to be passed on to tenants in the form of higher rents, and to customers of business in the form of higher prices; thus they, too, tend to be regressive in their ultimate effects. They act as a deterrent to investment in new property, and are accordingly economically undesirable except when there is a danger of over-investment and inflation. In practice, they lag behind changes in true property values and in incomes, giving rise to tax delinquency and abandoned properties. Thus, while it is nearly always desirable to lower these taxes, it very seldom (if ever) is desirable to raise them. Consequently, any government dependent upon them for a large share of its revenue is severely handicapped in its effort to adopt a compensatory fiscal policy.

Finally, borrowing capacity is more limited for local governments than for central Governments; their credit rating is seldom as high. Indeed, in some countries, the history of subsidiary government finance is not one to inspire unlimited confidence. One is reminded, for example, of many cities in the American State of Florida, which plunged happily into debt during the 'twenties on the assumption that their population would continue to grow at phenomenal rates, and that real estate values would continue to rise in a manner that would make it simple for them to meet their obligations. These brave hopes were not well founded; a succession of crises reduced the revenues of these cities, until in some cases revenue fell to zero in a "taxpayers' strike". Some cities, in a desperate attempt to reduce their overdue obligations, accepted at par in payment of taxes their own bonds, which were selling at $15 or $20 on the market. One thinks too of the Canadian Province of Alberta, which partially defaulted on its bonds in 1936.

Examination of these and other cases shows that such lapses from sound government finance were nearly always the result of over-optimism as to future governmental income. There are very important differences in this respect between central and local governments. Most important of these is the fact that an intermediate or local government represents only a small segment of the whole national economy, while the central Government represents the economy as a whole. This fact has several highly significant ramifications. First, unlike the internal debt of a central Government, only a fraction of the debt of an intermediate or local government is as a rule held by people or institutions within the jurisdiction of that government; interest and principal payments on the debt do not go entirely into the incomes of people in the province, state or municipality. On the contrary, most of such payments may well go into the incomes of outsiders. Second, a much larger portion of the money spent by a local government will be respent outside its boundaries, so that the return flow to the government through a rise in the incomes of its constituents will be much smaller. Third, a local government does not have as good a control over the market for its obligations as the national Government has, since it lacks the same close relationship with the banking system. Fourth, the typical tax structure of local governments, with its over-dependence upon property taxes, prevents them from sharing fully and immediately in any rise in the incomes of their constituents, and increases the real burden of servicing a public debt. Finally, a city, state, province, or canton is subject to much greater vagaries in its income than a nation as a whole, and the trend of income in particular regions or localities

may be downwards even when the trend of income of the nation as a whole is upwards.

An analogy might be drawn between bank lending and local government spending. Just as one bank in a system cannot expand loans disproportionately without getting into trouble, so one local government may meet difficulties if it borrows and spends a great deal more than others. However, just as the return flow of funds to each bank tends to equal withdrawals when a whole banking system expands at once, so the "leakage" of local public expenditures to other political units tends to be offset by increased expenditures within one unit by citizens of other units, when all local governments increase their expenditures together.

GRANTS-IN-AID

Once it is recognised that local governments have the chief obligation for spending on public investment, and that central Governments are in a better position to raise the funds to pay for them, it is obvious that the use of public investment as a weapon to fight unemployment requires financial assistance from the central to the local governments. For the purpose of this Report, such assistance can be divided into three major types. First, there are "conditional grants" made specifically for the financing of public investment. Second, there are "unconditional grants", which can be used for any purpose whatsoever, including public investment. Finally, there are conditional grants for other specific purposes, mainly human improvements, which make possible the diversion of other revenues to public investment. All three types are relevant to public investment policy.

Experience of Certain Countries

Australia.[1]

In Australia the most notable example of grants-in-aid for public investment is the Federal-aid roads scheme, initiated under the Main Roads Development Act of 1922. From 1922 to 1926, under this and subsequent legislation, a total of £1,750,000 was provided by the Commonwealth for the purpose of reconditioning certain main roads. The States were required to raise an additional £1,500,000, and all expenditures had to be approved by the Commonwealth Government. This plan was greatly extended by the Federal Aid Roads Act of 1926, under which the Common-

[1] Cf. COMMONWEALTH BUREAU OF CENSUS AND STATISTICS, *op. cit.*; and G. V. PORTUS (editor): *Studies in the Australian Constitution* (Sydney, Angus & Robertson, 1933).

wealth has made annual grants of £2 million, shared among the States, as to three fifths of the amount in proportion to population and as to two fifths in proportion to area. Conditions were imposed, such as that the States must raise an amount equal to three fourths of the grant, that the grant could be used only for new construction and not for maintenance, and that all roads to be constructed with such funds must be approved by Commonwealth authorities.

The Commonwealth of Australia Act of 1901 provided for general unconditional subsidies by the Commonwealth to the States for a period of at least ten years. The purpose of these subsidies was to compensate for the loss of State revenue, mostly customs and excise, caused by federation. During the ten-year period, the subsidies were distributed in proportion to the contribution to Federal revenue made by the inhabitants of each State. In 1910, when the period of guaranteed subsidy came to an end, the Commonwealth Parliament enacted a Surplus Revenue Act, whereby payments were to be made on the basis of 25s. per head of population in each State; the new scale of payments was to continue for ten years, and thereafter until the Parliament otherwise provided. This system continued in force until 1927, when the Surplus Revenue Act was repealed. Under the Financial Agreement of 1927, ratified by constitutional amendment in 1928 and put into permanent operation by the Commonwealth Parliament in 1929, virtually all existing public debt of the States was assumed by the Commonwealth, and, instead of the former subsidies, which were paid direct to the State treasuries, the Commonwealth agreed to pay £7,585,000 (the amount which the per capita payments had reached by 1927) annually for 58 years from 1 July 1927 towards interest on the debt so assumed. In addition, a sinking fund was established in order to liquidate the States' then existing debts by 1985. The States are required to make an annual contribution to the sinking fund of 5s. per £100 principal amount of their debt, and the Commonwealth 2s. 6d. The Financial Agreement as operative at present can be altered only by unanimous decision of the seven Governments or by amendment of the Constitution. Besides the general subsidies, the Australian Constitution provides for special grants to individual States at the discretion of the Commonwealth Parliament.

Since 1933, the establishment of the Commonwealth Grants Commission has co-ordinated the special grants system. Special grants are made when a State is in such financial distress that it is unable to discharge its functions efficiently, and are limited to the amount necessary to enable that State to function at a standard not appreciably below that of other States. Special grants amount-

ing to about £2.5 million are paid annually by the Commonwealth Government on the recommendation of this Commission.

Canada.[1]

In Canada, the only sphere of normal public investment activity (as distinguished from work relief grants made during the great depression) for which conditional Federal-provincial grants have been made is highways. The Canadian Highways Act of July 1919 provided a grant-in-aid of $20 million for the construction and improvement of provincial highways. Each province was allotted a flat sum of $80,000 annually for five years, and the remainder of the grant was distributed on the basis of population. Federal aid was limited to 40 per cent. of the cost of the highways. The grant was placed under the supervision of the Dominion Minister of Railways and Canals, while provincial administration was handled by the public works, roads, or highways departments. Federal aid for highways was discontinued in 1928[2], when all the provinces had exhausted the $20 million grant.

Provision for unconditional grants to the provinces was made in the British North America Act of 1867, in compensation for the loss of provincial customs and excise revenue entailed in the transfer of these instruments to the new Dominion government. A fourfold stipulation was made: (1) an annual grant of 80 cents per capita was to go to the provincial governments; (2) flat subsidies were to be granted for the support of provincial Governments and legislatures; (3) by the device of "debt allowances", provincial indebtedness equal to $25 per capita was to be assumed by the Federal Government; (4) exceptional grants were to be allowed in the event of extremely unfavourable financial circumstances.[3] The allocation was based as much as possible on the population of the respective provinces. These grants did not meet with unqualified success. Although unconditional grants increased from $2 million in 1868[4] to $19.8 million in 1938[5], they have become relatively less important as a source of provincial revenue. In 1880, approximately one half of all provincial revenues were from

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[1] Cf. L. GETTYS: *The Administration of Canadian Conditional Grants* (Chicago, Public Administrative Service, 1933).

[2] Under subsequent unemployment relief legislation, the Dominion undertook to finance half the cost of approved provincial highways (*ibid.*, p. 78).

[3] J. A. MAXWELL: *Federal Subsidies to the Provincial Governments in Canada* (Cambridge, Mass., Harvard University Press, 1937), p. 18; and DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Dominion Subsidies to Provinces* (Ottawa, King's Printer, 1945), p. 7.

[4] L. GETTYS, *op. cit.*, p. 12.

[5] *Dominion Subsidies to Provinces, op. cit.*, p. 25.

Dominion subsidies; but subsidies did not keep pace with the expansion of provincial activities, and by 1937 only about 6 per cent. of provincial revenues was attributable to them.[1]

The Dominion has also made numerous grants for human improvements. Indeed, the first conditional grant to the provinces was in aid of agricultural education. This grant was extended from 1912 to 1924; it has not been renewed since then. For the most part, the grant was distributed on the basis of population.

A system of Dominion aid to the provinces for the maintenance of public employment offices was operative from 1918 to 1940, when such offices were nationalised under the Unemployment Insurance Act. Statutory authority for this grant-in-aid was embodied in the Public Employment Offices Co-ordination Act of May 1918. The Technical Education Act of July 1919 appropriated $10 million for the extension of technical education in Canada. An annual sum of $10,000 was allotted to each province, and the remainder was apportioned on the basis of population; the annual grant paid to any province, however, could not exceed the annual amount spent by the provincial government for technical education. The grant was administered by the Dominion Department of Labour and by the provincial departments of education or of public instruction. The Act expired in 1939. During the period 1919-1931, the Canadian Parliament appropriated $1,632,986.69 as a grant-in-aid to the provinces to combat venereal disease. This sum — the smallest of all conditional grants — was apportioned on the basis of population with the provinces being required to match their shares. A system of grants-in-aid for old-age pensions has been in operation since 1927, when the Old Age Pensions Act authorised non-contributory pensions co-operatively financed — 50 per cent. each — by the Dominion and the provinces. In November 1931, the Dominion's share of the pension costs was increased to 75 per cent., and this amount has been paid ever since.

Mention should also be made of provincial public works grants to municipalities. In 1929 these grants amounted to $4.7 million, declining to $1.3 million in 1933, and rising to $6.1 million in 1937.

France.[2]

In the highly centralised system of government of France, the national Government has spent a large part of its income directly, and only comparatively small sums have been redistributed for

[1] *Ibid.*

[2] Cf. GIROLAMI and DELAPORTE: *Les subventions de l'Etat aux collectivités locales* (Paris, La vie communale et départementale, 1934).

local use. Considerable encouragement has, nevertheless, been given to such projects as public works, unemployment relief, housing, education, and public health. In 1933, a total of 3,095 million francs was distributed in the form of direct national-local grants.

Germany.[1]

Under both the Weimar Republic and the Nazi Government, the problem of readjusting financial revenue and financial burdens between national, State, and municipal governments in Germany was handled to a much greater extent by means of intergovernmental sharing of revenues than by grants-in-aid as such. Nevertheless, grants were made in favour of activities in many fields, among them being those of education, police, highways, housing, and unemployment relief. The most recent provisions for grants-in-aid were the outgrowth of the "Principles" of the Reich Minister of Finance and Interior promulgated on 10 December 1937. On the basis of the Principles, twelve grants-in-aid measures were enacted by the various States.

The Prussian Act of 10 November 1938 was the standard type for all such regulations, the main deviation being in the system of apportionment. It established an annual fixed amount as the sum total of the grants-in-aid distributed to the communes and municipal associations. Thus, the State allotments for every fiscal year were: (1) RM.200 million for grants known as "formula grants" for the communes; (2) RM. 110 million as "formula grants" for the rural districts; (3) RM. 70 million as "formula grants" for the provinces. Under the Act, "the grants passed on to the communes have the exclusive function of adjusting the insufficient tax capacity of certain communes. This purpose determines the formula of distribution. Every commune is submitted to a direct though schematic enquiry whether the proportion between net expenditure and tax capacity is favourable or unfavourable. The less satisfactory this proportion proves to be, the higher the grant due to the communes is fixed. If the proportion is very favourable, the commune gets nothing."[2] None of the other State laws, with one exception (Oldenburg), followed the Prussian example of establishing a fixed annual amount as the total for the formula grants; these States apportioned percentages of the Reich tax returns.

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[1] Cf. H. F. ABRAHAM: *Intergovernmental Financial Relations in Contemporary Germany* (Cambridge, Mass., Harvard University, Graduate School of Public Administration, 1943); and M. NEWCOMER: *Central and Local Finance in Germany and England* (New York, Columbia University Press, 1937).

[2] H. F. ABRAHAM, *op. cit.*, pp. 23, 24.

Sweden.[1]

Organised grants-in-aid schemes have characterised Swedish employment policy since 1906, when the local employment exchanges (nationalised in 1940) received the first State grant. However, it was not until the advent of the great depression that these grants assumed great importance. National-local unemployment grants have taken two forms: those assigned to public works projects; and direct cash-relief grants. In spite of the increased importance of the former during the period 1930-1933, the latter was the dominant form of unemployment assistance during the depression. By March 1933, there were 336 communes (local authorities) giving State-subsidised cash relief to their unemployed; the central Government grant usually amounted to between 40 and 50 per cent. of the daily allowance given by the communes. But because of rapid economic development and the expansion of public works expenditure after 1933, cash relief began to play a less important role. Indeed, during the period 1935-1940, with the exception of 1939, the number of persons employed on work relief always exceeded the number receiving direct relief.

National grants-in-aid for local or communal works projects were first introduced in 1922, and have been operative since that time. They have covered such projects as the construction of roads and streets, bridges, and railways, land improvement, canals and waterways, forestry improvement, public buildings, harbours, airfields, and drinking water supply and sewerage. Between 1929 and 1935, a total of 4,045 State-communal projects was undertaken; the national Government's share of the cost of these projects varied from 26.2 per cent. (railway construction) to 69.9 per cent. (airfields), depending upon the type of work, the extent of unemployment, and the financial conditions of the commune; roads and streets constituted the largest single item of State-local expenditure, amounting to about 35.6 per cent. of the total expenditure of this kind.[2]

The significant fact regarding unemployment grants-in-aid in Sweden is that, particularly since 1932, they have been part of a broader governmental system of anti-cyclical policy. Perhaps in no other country, before World War II, was such a policy so consistently and so vigorously applied.

United Kingdom.[3]

In few countries have grants-in-aid played as important a part in the financial relations of national and local governments as in

[1] Cf. E. Harrison CLARK: *Swedish Unemployment Policy, 1914 to 1940* (Washington, D.C., American Council on Public Affairs, 1941).

[2] *Ibid.*, pp. 88, 104.

[3] Cf. M. NEWCOMER, *op. cit.*

Great Britain[1]. In 1934-35, they amounted to some 47 per cent. of the total local revenue from rates and grants.

The grants are of two main types — the comparatively new "block grants"[2], and the older "allocated grants", corresponding roughly to unconditional and conditional grants respectively. A block grant is one not specifically earmarked for the maintenance of a particular service, and so is really an unconditional grant, while the allocated type is a conditional grant. The primary purpose of both types of grant has been the same, namely, to bridge the gap between increased local government obligations and lost local revenues.

Grants-in-aid for public investment are believed to have originated in 1831, with a special annual grant of £90 to Berwick Corporation for the repair of Berwick Bridge. The two most important fields exploited since have been those of highways and housing. In 1934-35, among allocated grants, highway grants ranked second in amount to those for education, in spite of reductions made by the Local Government Act of 1929. The central Government contributes to the counties 60 per cent. of approved expenditures for the maintenance of class I roads, and 50 per cent. of approved expenditures for the maintenance of class II roads. Contributions are also made to construction expenditures, the percentage of costs varying with the different projects at the discretion of the Ministry of Transport. The amount of the grants for housing in 1934-35 nearly equalled that for highways. Indeed, "housing has become an important factor in many borough budgets, and it is the most important function of a large number of urban and rural districts. It is not exceptional for these districts to devote half of their rate and grant funds to housing".[3]

A system of Exchequer grants to county councils, county borough councils, metropolitan borough councils, and district councils in England and Wales, commonly known as block grants, was set up by the Local Government Act of 1929 and came into operation on 1 April 1930. The Act provided that Parliament should vote annually for distribution to these local authorities an amount stipulated for each "fixed grant period", and called the "general Exchequer contribution". The first grant period was to be three years, the second four years, and each subsequent period five years. During the first seventeen years of the operation of the Act, a progressively diminishing proportion of the grants was

[1] The ensuing discussion, except for unemployment relief, is limited to England and Wales. Scotland has practically the same grant system.

[2] Before and after 1930 there were a few block grants, though not called by that particular name.

[3] M. NEWCOMER, *op. cit.*, p. 231.

to be distributed on the basis of local losses from tax reductions and the discontinuance of certain grants resulting from the Act. In the year 1947-48 and afterwards, however, the block grants are to be distributed entirely on the basis of relative need for Exchequer assistance, as measured by a "weighted population formula". The total amount of block grants apportioned between 1930-31 and 1934-35 was £135.4 million.[1]

Grants-in-aid for human improvements have accounted for a large part of the British grant system since the early nineteenth century. They were especially important and numerous up to the Local Government Act of 1929. But the pre-1929 system had become disorganised, unwieldy, and partially obsolete. The 1929 Act effected the necessary revision and co-ordination by substituting the block grant for a large number of the former allocated grants, with the result that, with regard to human improvements, all the old grants were discontinued, except those for schools and police. For block grants, the largest single grant received by local authorities in 1934-35 was for education. This grant is distributed on the basis of a formula which takes into account both needs and ability. The former is measured by the number of school children and actual expenditures, and the latter by the product of a sevenpenny rate. The police grants meet 50 per cent. of approved local expenditures.

United States.

Federal grants-in-aid in the United States originated in the land grants made under the Northwest Ordinance of 1787, and experience with land grants governed the form of the early money grants.[2] Perhaps the first money grant was in 1837, when the Federal Government distributed "an embarrassing surplus" among the States. The first grants of the modern type, however, were those of 1887 for State agricultural experiment stations, and in 1890 for instruction in the land-grant colleges. Of the older Federal grants, highway grants have been most important; in 1930 grants for highways constituted over three quarters of the total.

The forms of grant used by the Federal Government have been three:

(1) Block grants — a fixed sum given to each unit of government for performance of a specific function (agricultural colleges, experiment stations, etc.);

[1] *Ibid.*, p. 366.

[2] A total area of 115 million acres of land has been given to the States for education, 98.5 million of which were for common schools, and 65 million have been given for "internal improvements" (NATIONAL RESOURCES COMMITTEE. *Public Works Planning*, Washington, D.C., 1936, p. 186).

(2) Unit grants — a flat sum for each unit of service rendered (National Guard, State homes for veterans);

(3) Percentage grants — the central Government assuming a given proportion of the cost of service (old-age security, crippled children, vocational education, forest-fire protection, etc.). The usual share is 50 per cent.; for forest-fire prevention, 25 per cent.; and for dependent children, 33 per cent.

The grants-in-aid of the States to municipalities have been used for the two main activities of municipal government: schools and highways. According to H.J. Bitterman, "State grants-in-aid for schools and highways have had a longer history, have affected the daily life of the people to a greater extent, and have been fiscally more important than the Federal subventions, except for the three years 1933 to 1935, when relief threw all other questions of public finance into the background".[1] The following table indicates the growth in State grants-in-aid ($ million)[2]:

	1902	1928	1930	1934	1935
Education	45.4	323.1	397.4	446.3	521.8
Highways	—	42.1	63.0	51.5	57.5
Welfare	—	10.3	42.1	159.8	178.7
Other	12.9	19.5	16.2	16.5	15.1
Total	58.3	395.0	518.7	674.1	773.1

It seems clear that grants-in-aid have been successful in increasing the total amount of public works expenditures in the United States. This statement holds especially for Federal grants, since many Federal grants, at least originally, were for new services. In the case of highways, when the first Federal aid programme went into effect in 1916, 33 States already had highway departments. Immediately after the passage of the Act, the other States set up highway departments. There can be little doubt that the grants hastened the process. Under the 1921 Act, a definite time limit was set in which the States had to conform with the new policy. In 1936, the Chief of the Bureau of Public Roads made the statement that the American highway and road system "is the big accomplishment of the Federal-aid legislation".[3] For agriculture, the stimulus of grants was more direct; before the Morrill Act of 1862 there were only three State agricultural colleges, and only 22 experiment stations before the Hatch Act of 1887.

[1] H. J. BITTERMAN: *State and Federal Grants-in-Aid* (Chicago, Mentzer, Bush and Company, 1938), p. 1.

[2] *Ibid.*, p. 54.

[3] Quoted by V. O. KEY: *The Administration of Federal Grants to States* (Chicago, Public Administration Service, 1937).

The American grant system has its limitations and its problems. Where the financial participation of the local governments ("matching") is required, there is danger that the States and municipalities will sacrifice more important regular services in order to obtain the Federal funds.

V.O. Key feels that it is even possible that the States, in attempting to meet all the matching requirements of all possible Federal grants, will seriously dislocate their financial systems.[1] He also argues that matching requirements bear unequally on different States: "the burden increases from State to State with declines in taxpaying ability".[2] Simeon Leland suggests that if matching is required, the source of contributed funds ought also to be stipulated, in order to avoid the economic effects of unwise taxation.[3] If, on the other hand, there are no matching requirements, there is danger of inefficiency both in the economic and in the engineering sense. As Key puts it: "In the absence of matching requirements, the States will usually accept the grants whether or not there is any particular interest in or need for the activity within the State."[4] In large States, where Federal grants are a small part of total revenue, the possibility of central control by means of grants is much less than in smaller States.

Various kinds of controls have been tried by the Federal Government to encourage efficient use of the funds granted to the States. Inspection and audits were provided for in the earliest Acts, but, being retroactive, proved of limited utility. Since the Adams Act of 1906, advance review and approval of proposed State plans have been more general. This end is accomplished by the submission of State budgets and plans to the appropriate Federal authority. These plans sometimes include a set of general principles with respect to the handling of individual cases in the allotment of funds. In the case of highways, for example, State projects are approved in advance by the Bureau of Public Roads, and the examination of the plans, surveys, and specifications of individual highway projects constitutes the major part of the work of this Bureau.

A very knotty problem is the determination of the total Federal contribution to particular services. Some kind of formula for distributing the funds among the States is necessary. In the case of highways, a composite formula involving population, area, and road mileage is used. The Emergency Relief Appropriation Act of 1935, to take another example, provided funds for grade-crossing

[1] *Op. cit.*, pp. 423-424.
[2] *Ibid.*, p. 365.
[3] Simeon H. LELAND, in *Public Works Planning, op. cit.*, p. 158.
[4] *Op. cit.*, p. 355.

elimination as follows: 50 per cent. according to population; 25 per cent. according to mileage of the Federal highway system; and 25 per cent. according to railway mileage. In some cases, such as forest-fire prevention, public-health work, maternal and child health services, the apportionment is not statutory but administrative. Despite these difficulties, extensions of the grants-in-aid system is necessary to obtain unified public investment planning in the United States.

Grants-in-Aid and Timing

While generous unconditional grants given during periods of unemployment would almost certainly be used for public investment to a large extent, and while grants for human improvements (public services) might also increase public investment somewhat, the central authority would obviously have better control over public investment policy if the grants were made for the specific purpose of accelerating the approved public investment programmes of local governments. The choice of projects to be brought forward from the list of reserve projects might, and perhaps should, be left to the local governments; but it would be advantageous in most countries to have certain grants made conditional upon the undertaking of additional public investment.

Since the volume of private employment will be subject to some variation even in a stabilised economy, it will be necessary to provide legal authority either for variations in the amount of the grants according to the employment situation, or for the accumulation of reserves by the local governments for use in bad times. In the latter case, the permission to accumulate reserves should carry with it the obligation to use them in periods of unemployment. Some of the problems involved in the accumulation of reserves by central Governments have already been discussed. Similar problems appear on the local level, and are considered below. In addition, it would be difficult to establish adequate control over reserves once they were in the hands of local governments, to prevent "raids" in times of relatively high employment and "hoarding" in depression. On the whole, a system of variable grants seems preferable to a system of fixed grants with variable rates of use by local governments.

One way of achieving a cyclically varying flow of grants-in-aid would be to write into the formula for the allocation of grants some coefficient to give weight to the level of unemployment. Various difficulties arise, however. Should the national level of unemployment or the local level be considered in deciding on the size of the grant to be given to a particular community? The answer

depends partly upon whether local unemployment can or should be eliminated by local public investment. Presumably *some* volume of local public investment can always eliminate local unemployment; but how much public investment will be required will depend in turn upon the extent of the leakage of expenditures to non-residents, as well as of the leakage into the savings of residents. Clearly, such factors are practically impossible to consider in devising a formula for grants-in-aid. There is also the possibility that local unemployment in economically declining communities ought not to be tackled by local public investment at all, but should be met by projects in economically expanding communities. In view of the complexities in determining the proper size of grant to be made to a particular government at a particular time, there seems no acceptable alternative to a wide area of administrative discretion in the allocation of grants for public investment purposes.

Unemployment is a national problem, and the major responsibility for counter-cyclical fiscal policy must rest with national Governments. It is nevertheless possible for local governments to make a contribution to the combating of depressions and of inflationary booms. As the Canadian Government has recently stated in its proposals to the Dominion-Provincial Conference on Reconstruction: "It is highly desirable that other governments agree to accept similar timing policies to those that the (central Government) proposes for its own programme."[1] Certainly:

> It is intolerable that the local units of government shall pursue policies which intensify the cycle, thereby forcing the national Government to counter not only the fluctuations in private enterprise but also those of local governmental units.[2]

The balance of this chapter concentrates on the principles of financial planning at the intermediate and local levels, on the assumption that the fiscal policy of the central Government is being conducted in a satisfactory manner and includes some sort of variable grant-in-aid system.

Determination of Financial Capacity

A local government is subject to financial limitations not applicable to central Governments. A locality[3] is seldom in a position to create its own financial resources, and it must therefore plan

[1] Dominion-Provincial Conference on Reconstruction: *Proposals of the Government of Canada* (Ottawa, King's Printer, 1945), p. 26.

[2] Alvin H. Hansen and Harvey S. Perloff: *State and Local Finance in the National Economy* (New York, Norton, 1944).

[3] As here used, "locality" means any area under the jurisdiction of a "local" government as defined above (p. 59, footnote 1.).

its outlays according to its estimated income from taxes, fees, grants, and loans.

The first step in financial planning for a locality is therefore to estimate the amount of revenue that will be available to it. To undertake this step in a satisfactory manner, an intimate knowledge and understanding of the locality's financial, legal, economic, and social structure is necessary. Wherever possible, the direction of the financial analysis should be assigned to locality officials who are familiar with sources of relevant data and who have the technical knowledge necessary to analyse them. When an adequate supply of experience and professional training is not available within the community, the assistance of outside experts may be desirable.

Once sufficient personnel has been assembled, it is advisable that they should obtain a thorough understanding of the financial history of the locality over a period long enough to give a picture of normal trends. The collection of data is a necessary basis for such an understanding. These data can be divided into two groups, financial and socio-economic. For example, the United States Public Work Reserve recommended to its field staff that the following data should be gathered if possible:

A. *Financial Data.*

Sources of funds:

(1) Source and amount of annual general tax revenues;
(2) Source and amount of special purpose taxes;
(3) Amount, source and purpose of grants-in-aid;
(4) Amount and sources of other current revenue;
(5) The purpose, type, amount and status of borrowing and indebtedness.

Outlays:

(1) Expenditures for ordinary, normal operation by departments or activities;
(2) Interest and amortisation on public debt;
(3) Capital outlay by departments or activities;
(4) Non-construction extraordinary expenditures by departments and activities.

Other data:

(1) Assessed valuations;
(2) Tax delinquency;
(3) The rates of interest at which bond issues have been floated.

B. *Social and Economic Data.*

Significant social and economic data include the following:

(1) Population trends in size, geographical and age distribution, composition, etc.;

(2) Employment-unemployment;
(3) Other business and industrial indices, *e.g.*, department store sales, factory payrolls, volume of bank loans, vacancy ratios, foreclosures, business failures, etc.;
(4) Property assessment methods;
(5) Descriptive material on pertinent political, social, geographic and economic development of the community (natural resources, transportation, legal boundaries, etc.).

When sufficient historical data have been compiled, they should be organised in a manner that will reveal pertinent factors bearing upon past and present trends. The different categories of data should be of like composition, year by year, for comparative purposes. So far as possible, the data should be presented in tabular and graphic as well as in descriptive form, to permit close analysis and visual interpretation of the material.

Since the timing of public expenditure is such an important element of economic policy, and since the integration of intermediate and local with national fiscal policy is so essential to the maintenance of economic stability, one item of particular interest in the financial history of a community is the relationship between its financial policy and general economic conditions. How has the expenditure of the locality varied over the business cycle? Has the locality borrowed during periods of depression, as well as periods of prosperity? Does it as a rule borrow money for major capital improvements? Does it pay for part or all of its capital improvements from current revenue? Has it an established technique for paying off indebtedness through the use of a sinking fund, or the issue of serial maturing bonds? Can it legally accumulate reserves in good times for use in bad times?

The second step is to forecast the locality's capacity to undertake new capital and human improvements. Such forecasts depend upon estimates of future revenue, and upon known factors which necessitate definite future outlays, independent of programming.

Estimating future revenues and expenditures requires data of a sort somewhat different from the historical material discussed above. In order to decide whether trends in revenue can properly be forecast, it is necessary to know something of the general economic condition of the locality and of the region in which it is located. What are its major industries? Are these industries expanding in the country as a whole? Are there any factors likely to lead to emigration or immigration of industry into or out of the locality? What resources are located in the region? What sort of labour supply? How has the war affected the present and future prospects of the locality? What is the condition of the capital equipment of

the region, including housing and public utilities? Are public services adequate? What legal debt limits exist? Is the present tax burden heavy? How would the public react to increased tax rates? Admittedly, conditions in many localities make such estimates extremely difficult, but the best judgment possible should be brought to bear upon such questions.

Among known necessary expenditures, interest and amortisation on outstanding debt and "other ordinary" expenditures which must be continued, such as the expenses of a minimal government organisation, will be of paramount importance. "Ordinary" expenditures are those that are regular and recurrent, and more or less constant from year to year.

In addition, factors likely to make other types of expenditure necessary or desirable should be presented. For example, a movement into the suburbs may leave urban decay ("blighted areas") in its wake; immigration of industry may make new streets, schools, etc., necessary; acceptance of centrally financed development projects may involve municipal participation and increased operation and maintenance costs.

When all the material described above has been collected and organised, it has to be analysed to obtain a picture of the probable future development of the community. Estimates can then be made of future revenues and known future ordinary expenditures. Past revenue trends should not be statistically projected unless the supplementary data available warrant such a procedure.

By subtracting expected ordinary expenditures from estimated non-loan revenue at current tax rates, a figure of funds available for servicing increased debt without tax revision is obtained. Then by estimating average interest rates on municipal debt and rates of amortisation for the planning period, the total amount of new debt that can be serviced at ruling tax rates can be calculated. This sum represents the total amount that can be spent for an enlarged programme of public investment without tax revision.

If, for example, a locality estimates that revenue at current rates will be $1 million per year, and ordinary expenditures are estimated at half this amount, the locality has an estimated $500,000 available to service additional debt without tax revision. If it can borrow at 4 per cent., and if the continuing costs (including replacement) of the projects to be undertaken run at 6 per cent. of original cost, the locality can afford to increase its debt by $500,000 multiplied by 100 and divided by 6+4, or $5 million. It can therefore undertake development projects costing $5 million without imposing new tax burdens on the locality.

The importance of taking careful account in the planning

stage of the operating, repair, and replacement costs of a public investment programme is worth stressing. At the beginning of a construction programme, maintenance, operation, and replacement costs seem such a small item relative to the original construction costs that their financial and economic significance might easily be overlooked. Yet with a constant rate of total expenditure on capital improvements, the proportion of these continuing costs to the total will increase until it absorbs the entire outlay. It is quite conceivable that the economic impact of expenditures for maintenance and operation, and the distribution of funds withdrawn for replacement, may in certain periods exceed in importance the impact of new construction. This situation will prevail particularly in periods when construction is tapering off, and when continuing costs may still be rising.[1]

Debt Policy at the Local Government Level

Whether a community can plan its public investment outlays in terms of an increasing debt, or must limit itself to a stable or even a decreasing debt over the long run, depends mainly upon its prospective aggregate income and the proportion of their aggregate income that its citizens will be willing and able to pay to the government as taxes or fees for desired services. In general, a governmental unit that can expect its citizens to be both willing and able to pay more taxes in order to finance worth-while public investment projects, can plan a rising governmental debt over the long run. On the other hand, a governmental unit that can only expect a falling revenue must of necessity plan a decreasing volume of governmental debt. A stable community will usually find it advisable to aim at a stable debt, but may not find it desirable to stabilise its debt at the zero level. In most cases a community will reach stability after a period of expansion, and will have some outstanding debt. Whether or not such a community should wipe out its debt depends upon whether or not the rate of interest it pays on the debt is greater or less than its preference for having things now rather than later. It has the choice of using part of its current income for debt reduction, reducing future interest charges, and making possible greater future outlays for other purposes, or of spending more for other purposes currently and having correspondingly less to spend on them in the future. This choice is one which can only be made on the basis of relative needs now and later as compared with the rate of interest that the locality is paying.

[1] For a more detailed analysis of the relationship between capital and continuing costs, see Appendix II below.

Over the long run, then, the chief factor in estimating the desirability of expanding, contracting, or maintaining a locality's public debt is an estimation of the future trend of potential revenue. If a locality can expect a gradually rising income, the total debt it can handle safely will also be gradually rising. However, if it finds that its income is likely to shrink over the next decade, it must plan a programme of debt reduction, *unless* it is willing and able to devote an increasing proportion of the incomes of its citizens to public purposes.

The Relation of Public Debt to Needs

An expanding community will have expanding needs. It will need new schools, new streets and sewers, increased fire and police protection, and so forth. If it is committed to a policy of not incurring debt, and is able to expand its total expenditures only at the rate at which current revenue increases, it will be unable to provide for these needs, since the expenditures required in any one year to provide the needed facilities will far exceed the current revenue of that year. Borrowing is a means of spreading the money cost of these needs over a number of years, while making the actual outlay in a single year.

The Timing of Borrowing by Local Governments

While the general policy of an intermediate or local government with respect to the trend in its indebtedness depends upon trends in anticipated revenues, the policy with respect to the immediate future will depend upon other considerations as well. It is important that the fiscal policy of intermediate and municipal authorities should conform to the national fiscal policy in booms as well as depressions. Increases in governmental expenditures, and the accompanying increases in governmental debt, ought to come at a time when expenditures and debt incurrence by private individuals and business firms are inadequate to maintain a satisfactory level of income and employment. As "spontaneous"[1] private spending increases, community expenditures and debt incurrence can be reduced.

Self-Liquidating Projects

Because of the limitations on borrowing by local governments, the case for self-liquidating public works at the intermediate or local level is stronger than it is for the central Government. As

[1] That is, spending not called forth by public investment in so direct a manner as to require continued public spending to maintain it.

pointed out in the previous chapter, self-liquidation has the merit of providing a guide to the ideal scale of operation of projects; and if a sufficiently flexible system of grants-in-aid is in force, self-liquidating projects at the local level can still have positive secondary effects on income and employment in the country as a whole, if the grants themselves are financed by deficits. However, a locality considering self-liquidating projects should bear in mind the effects at the local level as well. If the original construction of, say, a municipal swimming pool is financed by the issue of revenue bonds to be paid off later from admission fees, the net effect upon income and employment will be expansionary while construction is under way. Running the pool at an operating profit upon completion, however, will involve a net contractionary effect upon income and employment, since withdrawals from national income will exceed current contributions to national income.[1] Unless offset by counteracting fiscal measures at the central government level, the effects on the national economy will be in the same direction as those on the local economy. In periods when unemployment threatens, even local governments should weigh carefully the merits of self-liquidating works, except when one of the following conditions prevails:

(1) If the period of construction is one in which net income creating effects are desired, and the subsequent period is likely to be one calling for counter-inflationary measures; or

(2) If the completion and liquidation of the project will be offset in its effects on income and employment by the beginning of new projects; or

(3) If central Government fiscal policy can be safely expected to offset the effects of undertaking, completing, and then liquidating the project, to whatever degree is called for by the national and local economic situation.

In view of the complexities involved in discovering whether any of these three conditions holds, there is much to be said for limiting self-liquidating projects to cases — and situations — in which it is not only possible, but also clearly desirable, to make those people who enjoy the public service pay for it.

Reserves *versus* Deficit Finance

In the case of local governments, complications of monetary policy are of less importance in the choice between accumu-

[1] The same is of course true of the sale at a profit of services from any durable asset, whether publicly or privately owned, *unless* replacement proceeds at a rate fast enough to absorb all profits currently.

lating and dispersing reserves, on the one hand, and reducing and incurring debt, on the other, as alternative devices for financing a counter-cyclical investment policy. In periods during which full employment prevails and income (including grants) exceeds needed outlays, the government can either set aside reserves for future public investment, or reduce its outstanding debt. In the first case, it can use its reserves when unemployment appears, and in the second case it can borrow. The long-run effects on the level of debt are the same. If reserves are held in cash in local banks, and paid out to people with accounts in the same banks, the accumulation of reserves simply transfers deposits from spenders to a saver (the government), and their use transfers them from a saver to a spender, without altering the position of the banks. If all reserves are held in local banks, while some payments are made to depositors in outside banks, there will be a net drain of cash from local banks. In the absence of nation-wide branch banking, this drain would tend to tighten the local credit situation temporarily, unless other local governments are making offsetting payments to local depositors.

Paying off debt from taxes also transfers purchasing power from spenders to savers on balance, although in this case the savers are perhaps more likely to reinvest and less likely to hold idle cash. Acquiring debt transfers purchasing power from savers to spenders on balance. If some bondholders keep their deposits in other cities, debt reduction will drain cash from local banks; while borrowing will, in that case, increase the reserves of local banks, unless payments outside the community exceed borrowing from outside the community.

Thus the differences in the two systems, either in terms of effects on local budgets or of effects on local employment, are negligible. The local banking position at the time when public investment is expanded may or may not be different, depending upon what proportion of cash reserves is kept in local banks, what proportion of local debt is held outside the community, what share of income payments on public investment projects goes outside the community, what offsetting effects of expenditures by other governments there are, to what extent branch banking prevails, and so forth. It seems improbable that local governments will be in a position to consider these relationships, and accordingly there seems little basis for choosing between the two financial techniques, other than the taste of the locality concerning them.

PART III

TECHNICAL PROBLEMS IN TIMING PUBLIC INVESTMENT

CHAPTER VI

LEGAL AND ADMINISTRATIVE PROBLEMS

In the past, the principles of timing public investment outlined in Part I have seldom been applied, and they have never been applied with complete efficacy. By and large, public investment has fluctuated in a manner that has aggravated, rather than offset, fluctuations in private investment. During the great depression, the principle of using public works to stimulate recovery was finally accepted by several Governments, but only after national incomes had already dropped to unnecessarily low levels; and in most cases there was a discouraging lag between the decision to combat unemployment by public investment and the actual creation of jobs.

Among the most frequent and most serious factors of delay were legal and administrative barriers to the speedy expansion of public work expenditures. Sometimes the requisite agencies did not exist, or had no authority to spend funds for public investment purposes. In other cases, although agencies existed and all necessary enabling legislation had been passed, delays were encountered in the appropriation of funds by all participating levels of government. Even when funds were available, there were time-consuming legal and administrative procedures to go through in letting contracts; and even when contracts were let, serious legal obstacles were frequently encountered in the acquisition of sites.

Organisation and Enabling Legislation

If Government funds are to be spent on capital improvements, agencies must exist with authority to spend them. The establishment and organisation of a public investment agency takes time, usually several months. The development of an agency into a smooth-running machine, with well oiled procedures to minimise friction and breakdowns, takes even longer. Unforeseen complications are likely to arise in the initiation of any new governmental activity, or even in the expansion of an old one. If public investment is to be quickly expanded to prevent unemployment when other forms of spending fall off, as many as possible of these complications must be removed before the need for jobs makes its appearance.

The number and types of agencies that will be necessary for efficient administration of a national public investment policy will vary from country to country. However, it seems clear that any country aiming at an integrated national policy must have some agency within the central Government to do the integrating. There are advantages in setting up the central agency as an independent department, with cabinet rank for its chief executive, so as to assure for public investment its proper role in general economic policy. There are also advantages in allotting to a single agency powers to plan and execute the public investment projects of the central Government, and to review, supervise, integrate, and allocate grants for the projects of local governments. Most countries will probably find it desirable to establish regional offices of the central agency, and federal countries may also wish to organise State or provincial branches as well, in order to maintain close working relationships with the local authorities, which will — and probably should — continue to originate the bulk of public investment proposals in democratic countries. The development of a complete system of public investment agencies is essential for the effective operation of a timing policy; but the organisation of such a system is itself a time-consuming process, and may frustrate efforts at timing unless completed in advance.

The experience of the American[1] public works agencies provides particularly good examples of how legal and administrative obstacles can prevent satisfactory timing in the expansion phase, because the attempt to expand public investment was made at a time when the country was little prepared so far as organisation and enabling legislation were concerned. The difficulties encountered by the Public Works Administration (P.W.A.), the first of the Federal agencies set up for the express purpose of creating employment through public investment, is especially instructive. The P.W.A. was established in 1933 under Title II of the National Industrial Recovery Act, with authority to disburse $3,300 million as loans or grants to State and local governments for public works projects undertaken on a private contract basis. Because of legal and administrative complications, it was nearly a year before 90 per cent. of the contracts under this appropriation had been awarded.[2]

One of the first obstacles encountered by the P.W.A. was the failure of the Act to establish clear lines of authority. In the first

[1] The examples given in this chapter are almost entirely drawn from the United States, because more information is available on the experience of that country than on that of other countries.

[2] Cf. J. K. GALBRAITH and G. G. JOHNSON, *op. cit.*, p. 78.

weeks after the P.W.A. was established, nothing was done beyond the appointment of an executive board, with Mr. Harold L. Ickes as Chairman.[1] Mr. Ickes was finally appointed Administrator some time after the agency was set up, and only then was he able to set about acquiring staff and establishing procedures.

Unfortunately, even more serious legal and administrative obstacles were encountered at the State and municipal levels. The municipalities in particular were unaccustomed to dealing directly with the Federal Government and moved hesitantly. Economy drives by municipal governments had left inadequate engineering and planning staffs, and the provision of necessary plans and specifications proved time consuming. In many cases, State constitutions and laws or municipal charters had to be changed to permit the use of funds, and some legislatures were not even sitting when the P.W.A. was initiated. Lack of fiscal planning and previous unwise finance left many governments in no position to utilise the grants permitted under the Act. State and municipal provisions against increase of existing debt were serious obstacles in other cases. Sometimes a municipality required a two-thirds majority of its electorate to legalise the assumption of additional debt. In other cases, local law required giving notice up to 90 days before the issue of new securities.[2] The problems faced by the P.W.A. will

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[1] The situation existing at that time is described by Mr. Ickes as follows:

P.W.A. continued to mark time. There was a lack of driving leadership; there was no energy in its functioning. We had a Board, of which I was the chairman, but a board never can perform as an executive . . . A great organisation can never be built up . . . if a debating society is substituted for the effective, single executive at the top that such a situation imperatively demands. As chairman of the Board, I did not consider that I had authority really to take hold of the Public Works Administration and run it . . . I suspect that Colonel Sawyer felt that he was under a handicap because he had been named merely as Temporary Administrator. (Harold L. ICKES: *Back to Work* (*The Story of P.W.A.*), New York, Macmillan, 1935, pp. 52-53.)

[2] These difficulties have been graphically portrayed by Mr. Ickes:

P.W.A. has often been blamed for this unavoidable delay in starting actua work after the money has been allocated, but the real fault has been attributable to the complicated, and in many cases, archaic, municipal laws with which our attorneys have had to cope. Or it might be that the municipality could not go ahead until the State legislature had passed an enabling Act. If, for example, one of the unavoidable conditions of the allotment was that a bond election must be held, many delays that had been unforeseen might intervene. Perhaps, the local laws required publication of the election for six weeks in advance, and even after the actual election there would be another pause while the votes were being tabulated and the result announced. Even then the project might have to wait until an ordinance could be passed by the city.

These varied local and State laws and constitutional limitations which had been set up as safeguards against municipal extravagance finally led the contracts unit to prepare model forms for each of the forty-eight States, covering all requirements, such as elections, advertising, council approval and State authorisation, which might possibly arise. But even when these forms were furnished, there were often other delays resulting from local regulations or local unfamiliarity with the forms . . .

(*Footnote continued overleaf*)

confront any new agency entering the public investment field, especially if the co-operation of local governments is sought and private contracts are to be used.

Some idea of the enormous improvements in the rate of expansion that occurs when the necessary central agencies are organised and enabling legislation passed in advance can be gleaned from the record of the P.W.A. in 1938, when additional funds were appropriated to counteract the recession of that year. Some 77 per cent. of the funds available for Federal construction was allotted on the very day that the appropriation Bill was approved by the President; and within a month over 95 per cent. of the allotments had been made. Even for State and municipal projects, where some legal and administrative problems still existed, allotments proceeded much more quickly than in 1933, 900 allotments being made within three days of the signing of the Act.

If local agencies must be established as well as central Government agencies, the launching of a public investment programme is still more complicated. The United States Housing Act, for example, passed early in 1937, authorised the United States Housing Authority (U.S.H.A.) to lend $800 million to local housing authorities and to make an annual contribution for rent reduction. The U.S. Housing Authority began operations in November 1937; a year later, it had negotiated loan contracts with local authorities for only $22 million. During 1938, some 60,000 dwelling units were put under loan contract, but only 10,000 units were actually under construction by the end of the year, and jobs were being provided for only 3,000 men. Another year later, when American unemployment was still around 8 million, the U.S.H.A. programme was employing only 30,000 men.

Legal and administrative factors were primarily responsible for these delays. Enabling legislation had to be passed by State governments before local authorities could even come into existence. Procedures had to be established in the central office. Standards had to be set up and methods of review determined. Surveys of housing need had to be undertaken before loans would be sanctioned. Such things take time; and if they are not to delay the launching of public investment programmes, they must be done well in advance.

British experience with public housing confirms this conclusion. The generous financial assistance provided by the central Government under the 1919 Acts had relatively little effect in the year

We became accustomed to being damned for "slowness" because municipal authorities took from six months to a year to sign a contract . . . or because it was necessary to hold a referendum, or obtain enabling legislation. (*Op. cit.*, pp. 72-73, 210.)

following, because municipal housing departments were not fully organised. Up to 31 March 1920, only 576 dwelling units had been built by local authorities with State (central Government) assistance, and only 139 units by private enterprise with State assistance. The 1933 legislation, although in comparison it was "niggardly in its inducements and stringent in its requirements", was more effective because the administrative machinery was "in full working order".[1] The number of units built by local authorities with State aid jumped from 23,503 for the half-year ending 31 March 1933 to 24,474 in the next half-year and to 29,399 in the half-year ending 31 March 1934. In the same periods, private building with State aid rose from 1,187 units to 1,269 and 1,644 units respectively. The more liberal assistance provided under the 1935 law was even more stimulating, State-aided residential construction almost doubling in the year following the legislation.

Appropriation of Funds and Advance Letting of Contracts

The advance organisation of necessary agencies and passage of enabling legislation is not enough in itself to ensure the speedy expansion of public investment. Unless projects have been approved, funds appropriated, and contracts let, disastrous delays can still occur. P.W.A. experience provides many examples of lags due to complications in the process of preparing and submitting the applications for funds and in letting contracts.

Work was done on a private contract basis wherever possible. It was felt that the contract basis conformed best with the legislative requirement that private enterprise should be used to a maximum extent, and that partisan politics could best be avoided by using the contract method. The contracts were let by the sponsors of the projects, after advertising for bids in the manner customary to the State or locality undertaking the project. Advertisements had to be repeated for at least two weeks and left open for at least two weeks after that; but in many States and municipalities the period required for advertising and for accepting bids was much longer.

The procedure for the submission and approval of projects finally crystallised into the following steps: (1) the State or municipal government passed a resolution authorising the filing of an application; (2) the plans were submitted to the P.W.A. director for the State on forms provided by the central office; (3) upon approval by the State office, the applications were forwarded to the P.W.A. in

[1] Ursula K. Hicks: *The Finance of British Government, 1926-1936* (London, Oxford University Press, 1938), p. 169.

Washington, copies were distributed to the Division of Applications and Information, the Bureau of the Budget arranged for the disbursal of funds, and the Works Projects Administration checked the employment possibilities of the proposal against the employment needs of each area; (4) the applications, with comments by the reviewers in the legal, financial, and engineering sections, were forwarded to the Committee on Allotments; (5) on approval by this Committee, the applications were forwarded to the President for his final approval.

Considerable delay arose out of this complicated procedure for reviewing and approving projects. Some of it was encountered in the State offices of the P.W.A. By the end of September 1933, only 550 applications had been forwarded to Washington out of 4,000 that had been filed with P.W.A. State engineers. A month later only 250 had been approved in Washington, and by the end of the year only one half of the 8,000 non-Federal applications that had been made had reached the central office. Further delays were encountered in the central office, owing to an insufficient number of examiners, inadequate supply of law books, and the necessity of very careful review to ensure conformity with the Act.[1] Other delays originated in the State and municipal government offices before projects were even submitted. The Administrator himself laid primary emphasis on the legal and financial obstacles encountered at the State and local levels.[2]

Under the United States Housing Authority programme of 1937, it was not unusual for two years to elapse before a contract was awarded, and in some cases the lag was nearly three years.

[1] Cf. J. K. WILLIAMS: *Grants-in-Aid under the Public Works Administration* (New York, Columbia University Press, 1939), pp. 160-163; and J. F. ISAKOFF: *The Public Works Administration* (Urbana, University of Illinois, 1938), Ch. V.

[2] "The laws of some States make it illegal to advertise for bids and to prepare for construction before the money is actually in hand and consequently there may be a pause while the cart is being properly adjusted to the horse . . . The lack of intelligent and intelligible municipal and State laws, plus, in many instances, the refusal of local officials to be hurried out of the snail's pace to which they are accustomed, have been responsible for most of the exasperating delay". (Harold L. ICKES, *op. cit.*, p. 73.)

"Slowest of all types of projects to reach construction stage were the non-Federal works . . . which to my mind were the best projects of all . . . It was surprising how few of them were ready to be launched when the public works programme started . . . When such a project was submitted to P.W.A., even after it was recognised that it was meritorious, weeks and sometimes months went by in accumulating the detailed information that it was necessary to have before action could be taken . . . It was all new ground to the local officials as it was to the public works staff, besides which they were afraid of the contracts and mystified by them. Frequently, they would go into some pigeonhole in a mayor's or governor's office and be lost . . . After the communities had executed the contracts and the government had signed in its turn, endless additional details were encountered. All the local regulations controlling public construction came into play to delay the actual start of work. Weeks became months, and in some instances a year would pass before a non-Federal allotment resulted in construction which the public could watch." (*Ibid.*, p. 219.)

These delays were explained by Coleman Woodbury, Assistant Administrator of the National Housing Agency, as follows:

> First, for the pre-war U.S.H.A. local authority programme, it seems to me important to remember that a very considerable proportion of the public housing projects that were started were the first projects developed by the local authorities. Naturally, in these circumstances the time schedules were slow because practically every major step had to be preceded by educational work between the U.S.H.A. and the local authority, selection and training of staff, public education in the locality, etc. . . . In the pre-war U.S.H.A.-financed programme, a project had to be formally initiated by a local authority. The U.S.H.A. itself had no power to develop projects.[1]

W. N. Loucks states that at the beginning of the Great Depression, it took 190 to 229 days to authorise a loan and start a project in Philadelphia if the project was not submitted to the art jury; otherwise, it took 218 to 257 days. Under unfavourable circumstances, the lag could run to one and a half years.[2]

As experience is acquired in preparing, reviewing and financing projects, these time-lags can be considerably reduced. In its 1938 programme, for example, the P.W.A. reduced the time taken to let 90 per cent. of all contracts from nearly one year to about three months. Similarly, the U.S.H.A. reduced the time it required for letting contracts so much that the average for the whole slum clearance programme was nine and a half months. It is interesting to note, however, that for the slum clearance projects transferred to the war housing programme in 1941 the novelty of the procedures involved under the new Act raised the pre-construction period to eleven and a half months.

Chart II presents a time-table which the U.S. Housing Authority felt would be a reasonable goal for post-war public housing projects in the United States. It illustrates the multiplicity of steps that must be taken before construction can begin on such projects. Clearly, even under favourable conditions, with efficient authorities already organised at all interested levels of government, it is still necessary for all pre-construction operations to be completed before the need for expansion appears, if the danger of temporary unemployment giving rise to a cumulative downswing is to be altogether avoided.

When projects are undertaken on "force account" (*i. e.*, with the government's own labour force) with Federal funds and Federal administration, the time-lag from appropriation by the central Government to the beginning of work can be drastically reduced.

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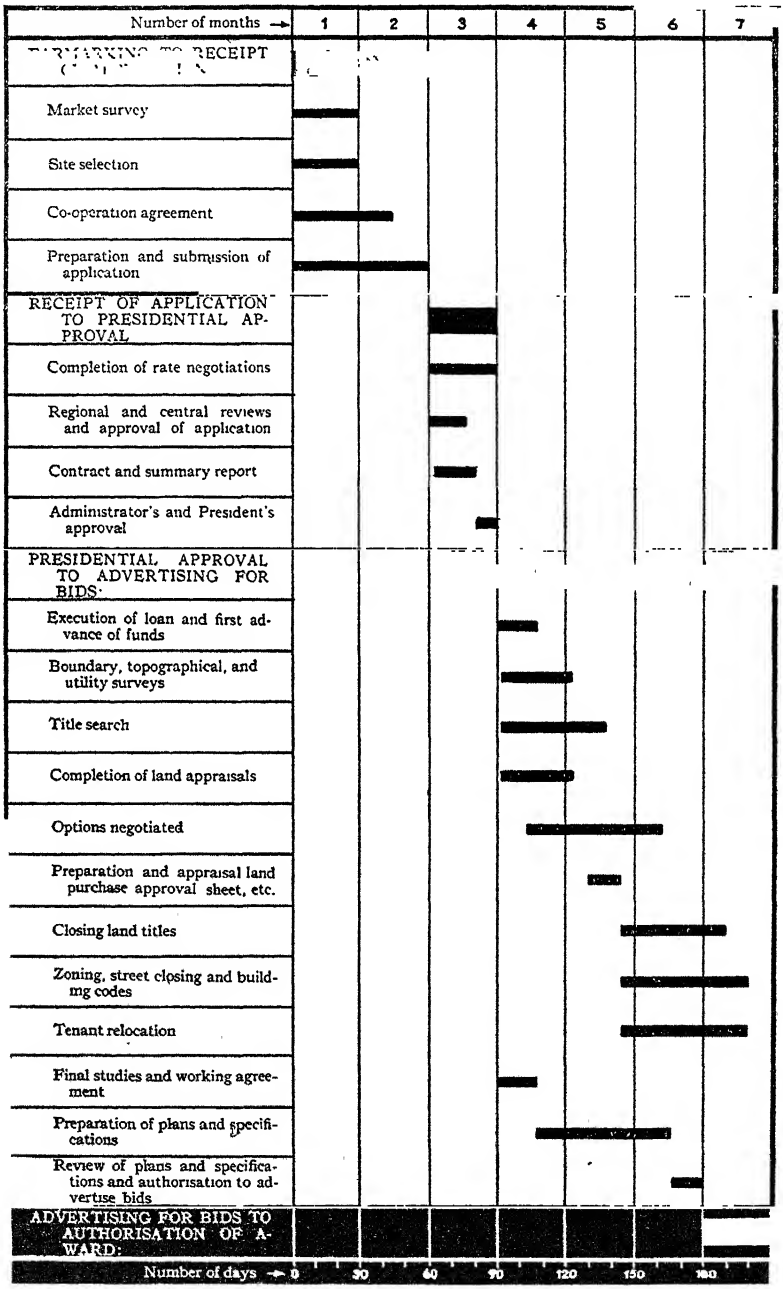
[1] Communication to the I.L.O., 18 Sept. 1944.

[2] W. N. Loucks: *The Stabilisation of Employment in Philadelphia* (Philadelphia, University of Pennsylvania Press, 1931).

Chart II. Time Patterns in the Pre-Construction Phase of United States Housing Projects



Source: UNITED STATES HOUSING AUTHORITY: *Time Control Chart for Processing the Development of a Typical U.S.H.A.-Aided Project*, 8 Sept. 1941.

In the case of war housing projects constructed under the Lanham Act by the U.S.H.A. (under its new title of Federal Public Housing Authority), the average pre-construction period was cut to five months. In the words of F.P.H.A. Commissioner Klutznick:

> This reduction in time was made possible by the relatively simple legal and financial requirements for war-housing projects under Federal ownership as compared with the lengthy but necessary procedures that had to be evolved for locally owned low-rent and war-housing projects. The widespread use of standard building plans also contributed to the shortening of pre-construction time.[1]

Still more striking is the contrast between the P.W.A. experience cited above and the record of the Civil Works Administration (C.W.A.), which was the first of the Federal relief works agencies.[2] Ten days after the agency was created, men were already at work. On the first pay-day, 23 November 1933, 814,000 workers were enrolled on C.W.A. projects, and a week later the number had almost doubled. At the end of January 1934, when the programme reached its peak, over 4,000,000 men were employed in the C.W.A. programmes. The record of the C.W.A. shows how quickly men can be put to work on a force-account basis when funds are available and an energetic and efficient administration has been organised.

Much of the delay in letting contracts is due to unnecessary legal and administrative complications that could be eliminated without loss. The exigencies of war have resulted in much simplification of contract procedures in the case of war plants; some of these simplifications could be advantageously extended to peace-time public investment. On the other hand, there is an irreducible minimum lag involved in advertising for bids, reviewing them, and awarding contracts, if the procedure is to be fair to all parties and to procure the lowest possible costs. It seems clear that the private contract system can hope to compete with force-account work in the speed of job provision only if some method is worked out for letting contracts in advance.

The obvious barrier to advance contracting is the high degree of risk attaching to firm-price contracts for work to be done any distance in the future, due to uncertainties as to future costs. There are two ways in which this barrier might be surmounted. One way would be to utilise the "target price" contract introduced during the war to meet similar uncertainties in the production of new war materials and supplies. A price was set, based on the best possible estimates. If costs ran higher than expected, the government

[1] Communication to the I.L.O., 13 Oct. 1944.
[2] The work of this agency is described in more detail in Ch. IX.

would bear (say) 50 per cent. of the loss; if costs ran lower than expected, the government would take (say) 50 per cent. of profits in excess of some "fair" rate, often 5 per cent. Another way of meeting the problem would be to use a firm-price contract but attach an "escalator clause", requiring revision of the price in accordance with changes in relevant wage rates and materials prices between the time the contract was let and the time work begins.

As economic controls become more effective, and fluctuations in cost are accordingly minimised, the risk attaching to commitments made three months to one year in advance need not be great. Moreover, it should be remembered that many construction contracts can be broken down into component parts. The contract for excavation could be let in advance, and notice served of the intention to advertise for bids on the remaining parts of the contract at a later date. Interested firms could then prepare their estimates, and make final revisions when bidding opens. The contract for the foundation could be let while excavation is in process, and remaining contracts let before the foundation is finished. In this manner delays associated with the letting of contracts could be entirely avoided.

Advance Acquisition of Sites

Site acquisition can be one of the most time-consuming of the legal operations that must precede the initiation of public works projects. Few countries are entirely free from problems of land acquisition. The difficulty of acquiring land for public investment at reasonable cost has been a subject of much discussion by the International Congress of Towns.[1] The problems have been neatly summarised by the United States National Resources Planning Board:

> Land acquisition on a large scale, especially if the purposes to be served require blocking in of large contiguous areas, is at best a difficult, complicated, and slow process; and unless it is conducted under competent administration, it can become very costly. It requires individual transactions with large numbers of persons. It sometimes raises charges of governmental paternalism. It removes land from the tax base. These, the most frequent causes of friction with local people, subject the Government to sharp criticism.[2]

In Great Britain, the problem of land acquisition was regarded as so serious an obstacle to post-war planning that a special com-

[1] See for example the report of the Paris Congress of 1925, in *Le Mouvement Communal* (Brussels), 15 Nov. 1927, pp. 312-313.

[2] National Resources Planning Board: *Public Land Acquisition*, Part I: "Rural Lands" (Washington, D.C., June 1940), p. 6.

mittee was appointed to study it and to make recommendations for its solution.[1]

Examples of Delays and Costs

In the case of the United States Housing Authority referred to above, the interval between approval of the land purchase and final acquisition of the site was usually more than three months, despite the fact that negotiations for the site were often under way before the approval came through. It was not at all unusual for acquisition to take over six months, and in several cases it took almost two years. One housing project in Cincinnati, Ohio, required ten years of negotiations for land.[2]

The acquisition of land with structures already on it usually involves more complicated negotiations than vacant lots. Owner-occupied residences are especially hard to acquire since the owner's sentimental attachment to his home often enters in. The few speedy acquisitions under the U.S.H.A. were mainly of vacant sites. Under the American war housing programme, the average time required for site acquisition was considerably reduced, as a result of greater use of vacant land and of somewhat wider powers of expropriation.

Even vacant land can take a long time to acquire if large areas are needed and ownership is scattered. The rural division of the United States Resettlement Administration, for example, needed two to three years to complete its large-scale land purchases. Similarly, the United States Forest Service has taken up to five years to purchase land in some cases, and the Fish and Wildlife Service considers two or three years as the normal length of time needed to obtain land for its projects.

As may be seen from chart II, it is hoped that the time required for assembling land for American public housing projects, once the site has been chosen and its purchase approved, can be reduced to an average of 45 days. Such a period would represent a very considerable acceleration of the acquisition process; but even 45 days may be time enough for cumulative deflation to get under

[1] Ministry of Works and Planning, Expert Committee on Compensation and Betterment. The *Final Report* of this Committee, usually referred to as the "Uthwatt Report", was published in Sept. 1942 (London, H.M. Stationery Office, Cmd. 6386). It provided the basis for the Town and Country Planning Act, discussed below. The Committee on Land Utilisation in Rural Areas also dealt with problems of land acquisition in its Report of Aug. 1942 ("Scott Report", Cmd. 6378). For a brief discussion of these two Reports, see "National Planning for Town and Country in Great Britain", in *International Labour Review*, Vol. XLVII, No. 2, Feb. 1943, pp. 197-206. An earlier *Report of the Royal Commission on the Distribution of the Industrial Population* ("Barlow Report", Cmd. 6153, 1940) also touched on the problem.

[2] Cf. NATIONAL RESOURCES PLANNING BOARD: *Public Land Acquisition*, Part II: "Urban Lands" (Washington, D.C., April 1941), p. 18.

way. Considering that it is likely to take longer in most cases, it is clearly advisable to acquire in advance as much as possible of the land needed for proposed public investment projects.

Such long intervals for buying land are no guarantee of low costs. In the case of the Triborough Bridge in New York, for example, acquisition was not particularly speedy; but nevertheless the cost of land for the bridge and the approaches was nearly two thirds of the cost of construction, and over one third of the total development cost.

Methods of Site Acquisition: Open Market Purchase

The chief methods of acquiring land in democratic countries are: simple purchase through open market negotiations; exercise of the Government's "right of eminent domain" through condemnation proceedings; and seizure of tax delinquent properties. Gifts, transfers, and mortgage foreclosure are other possible methods, but are not of great importance in most countries.

Open market purchase has the advantage of avoiding open friction between the Government and landowners, and of being a relatively speedy means of acquisition. The chief difficulty faced in buying land is the need for assembling lots from a large number of individual owners. Negotiations must be entered into with all owners, and uniform prices paid for comparable properties. Once it is known that a Government authority is proposing an investment project requiring a certain land area, there is always the danger that individual owners, groups of owners, or even all the owners together will "hold out" for exorbitant prices.[1] No doubt, legal title to the land could be obtained very quickly if the Gov-

[1] There is no clear-cut evidence that Governments have more difficulty in acquiring land at reasonable prices than private concerns, for projects of equal size. In this respect, a statement of T. E. DUDLEY, who had charge of the Suburban Resettlement Division of the U.S. Resettlement Administration, is of interest:

> Practically every land buyer either in the Government or in private business agrees that it is wise and very desirable for any large organisation buying land in large quantities to obtain options on that land without the identity and size of the buyer, or even the size of the assembly area, being revealed to the landowners or to the public. Likewise all negotiators believe that this secrecy of operations is even more valuable to the Government than to any other large or private organisation. They believe that landowners take a special delight in holding their Government up for high prices. Upon this theory we operated with the strictest of secrecy. Not even our negotiators in the field knew for whom they were taking options at the beginning of their work.
>
> However, an examination of the rate of obtaining options and also of the prices of those options and a comparison of the same with the dates on which the public became aware of the Government's identity in the land acquisition work does not clearly indicate that options were harder to obtain after the revelation of the Government's interest than before. Likewise, such an examination of the facts does not support the contrary belief. There is still uncertainty on this point. (NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part II, p. 19.)

ernment authority were totally indifferent to the price paid; but justice to the community as a whole requires that compensation to the owners should not exceed the true economic value of the land. There is presumably some price at which land can be quickly acquired in virtually all cases; but if the Government is to make any efforts to protect the taxpayer and ratepayer, it must negotiate. Since the landowner can always break off negotiations, causing delay at best and abandonment of the project at worst, the procedure has to be carefully handled. Thus, unless the authority is willing to pay whatever price is demanded without question, even open market purchase is likely to be a time-consuming process.

The U.S. National Resources Planning Board lists the following steps in the mass purchase of land: (1) appraisal of the properties to be purchased, and the establishment of certain negotiating prices, estimates for total cost, etc.; (2) negotiations between property owners and representatives of the purchasing unit of government; (3) agreements between buyer and seller, represented by passing of title or option; (4) legal steps to clear the title, record the change of ownership, and make payments to the former owners of the land purchased.[1]

The determination of the proper value of land is more complicated in the case of large-scale purchases by public authorities than in the case of individual purchases of small parcels. There seems to be a natural tendency for owners, even if public spirited, to over-value their own property. All seem convinced that "floating values" (value due to an expected demand for building space) will surely settle on their particular piece of property.[2] Moreover, floating values in general are usually exaggerated by landowners. They are often based upon an unwarranted forecast founded on the extraordinary growth of cities between 1800 and 1930. In 1800, no city in the world had a population of one million; by 1930, there were 48 metropolitan areas with populations of one million and over. In the United States, the average rate of growth for the period as a whole was 51 per cent. per decade in cities of over 8,000 population. Mainly as a result of this increase in urban population, the value of land in American cities soared from $100 million to $75,000 million.[3] Urban population in Canada multiplied nearly eightfold between 1871 and 1931 alone.[4] Even in

[1] *Ibid.*, p. 18.

[2] Cf. Uthwatt Report, *op. cit.*, pp. 14-16; and Sir Gwilym GIBBON: *Reconstruction and Town and Country Planning* (London, George Allen & Unwin, 1943), pp. 36-37 and 44-46.

[3] Cf. Homer HOYT: *The Economic Status of the New York Metropolitan Region* (New York, Municipal Forum of New York, 1944), p. 1.

[4] DOMINION BUREAU OF STATISTICS: "Rural and Urban Composition of the Canadian Population", in *Seventh Census of Canada, 1931*, Vol. XIII (Ottawa, King's Printer, 1943).

relatively mature countries, such as England and France, the population of the four largest cities grew by 148 per cent. and 73 per cent. respectively between 1871 and 1931[1], and 1872 and 1931.[2] In Australia, the population of cities increased 101 per cent. between 1906 and 1933.[3]

These trends have quite clearly broken. In the United States, the rate of urban growth fell to 7.6 per cent. for the decade of the 'thirties, one seventh of the 1790-1930 average. Several of the largest cities actually declined in population. In Canada, urban population grew only 12.2 per cent. between 1931 and 1941, and in 601 urban communities the population actually declined. In the metropolitan centres of Toronto and Montreal, the increase in population was not much over one third of what it had been in the previous decade. British cities grew only 6 per cent. between 1921 and 1931, French cities only 5 per cent. between 1926 and 1936, and Australian cities 25 per cent. between 1921 and 1933. Yet landowners, and even professional appraisers, continued to value land in terms of previous expansion. Blight in the older cities is one result of this over-valuation of land[4]; another is the extreme difficulty of buying land for public purposes at reasonable prices.[5]

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[1] *The Statesman's Year-Book*, 1872 and 1943.
[2] *Idem*, 1875 and 1943.
[3] *Official Year Book of the Commonwealth of Australia*, 1901-1907 and 1937.
[4] Sir Gwilym GIBBON describes blighted areas as follows:

> The inner parts of many of our large towns are antiquated plants, patched here and there with improvements, in some places large, but few of them modernised in a systematic and comprehensive way, with streets unsuited for present, much less prospective, traffic and with a jumble of incongruous buildings, many of them ill adapted for existing uses, and a general layout inadequate for modern needs. (*Problems of Town and Country Planning*, London, George Allen & Unwin, 1937, p. 18.)

[5] Homer HOYT and Leonard SMITH say of land under old improvements:

> Instead of a higher and better use awaiting the owner when the old building wears out, the prospect now is that there will be hardly a profitable use to which this land can be put. ("The Valuation of Land in Urban Blighted Areas", in *Appraisal Journal*, July 1943.)

A similar view was expressed by the distinguished British town planner, Sir Raymond UNWIN:

> If then the increase of population in New York maintains its present rate and if it be housed at the density now proposed for a certain housing scheme, the majority of the owners of vacant land within the city must wait 100 years and many of them 200 years before they will realise any value from use of the site for building purposes. If these facts are even approximately true and if present views on prices and densities continue, the conclusion seems to follow that the majority of this land has no real value whatever today and is unlikely to have any for generations to come!
>
> Meantime the owners, on the strength of a gamble with odds of 100 or 200 to 1 against their sites being selected, are holding up their land prices, which compel those very high densities, which in turn increase the odds against them. ("Land Values in Relation to Planning and Housing", in *Journal of Land and Public Utility Economics*, Feb. 1941, pp. 5-6.)

Even experts have troubles in valuing land in large blocks.[1] Land is usually considered to have greater value in large blocks, because of the wider range of uses to which it can be put. The proper allowance for this "plottage value" is particularly hard to determine, and calls for long experience and good judgment. If fair values are to be set, ample time must be allowed for the purpose, and necessary organisations set up. The legal procedures involved in title searches are especially time consuming, and must be undertaken either before construction begins or concurrently with it, if they are not to hold up the employment of men.[2]

German and Scandinavian experience suggests that purchase can be an efficient means of acquiring land if it is spread over a long period of time, and if land is bought well in advance of the public need for it. Before the war, Copenhagen owned over 8,000 acres on its outskirts, and over 3,000 acres within its borders. The land had been gradually acquired since 1890. No use was made of expropriation, but the prices paid seem to have been reasonable. Since the land was not required immediately for a specific purpose, the bargaining power of the private owners was not greatly enhanced by the entry of the public authority into the market. When city-owned land is sold in Copenhagen, the city reserves

[1] Sir Gwilym GIBBON writes:

> I have seen amazing differences in the valuation of land by men equally competent and equally trustworthy. (*Reconstruction and Town and Country Planning, op. cit.*, p. 36.)

According to the U.S. NATIONAL RESOURCES PLANNING BOARD:

> Real estate buyers, however versed in dealing in individual parcels, are likely to make several types of error in determining values. First, they will tend to think in terms of a free market, where the buyer's hand is not exposed, and where he can substitute one property for another. To the Government agency, however, one property is not as good as another; it must acquire every parcel in the project area, and no others; and since the project is a matter of public knowledge, everybody knows what the Government must buy. Second, brokers and realtors accustomed to ordinary transactions will think in terms of a willing buyer and a willing seller, whereas in land assembly neither party is quite free. The Government must acquire the land, but it can resort to condemnation if purchase price seems too high; the owner need not sell, but he cannot resist the power of eminent domain if it is exercised. (*Op. cit.*, Part II, p. 18.)

[2] Cf. NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part II, pp. 19-20:

> The final step in land acquisition, the clearing of title and compliance with other legal and administrative requirements, occasionally delays completion of a purchase project and usually cannot be shortened. If some system of title registration, such as the Torrens system, is in effect, this takes but a short time; but in most cases, the time lag may be corrected only by advance clearing of titles before options have been obtained. This may result occasionally in some waste of time, since negotiations for any property may break down. The Suburban Resettlement Division of the Resettlement Administration, however, faced with the overwhelming task of completing four purchase projects in four months, was not only optioning as many as 1,000 properties a week, but was clearing title to them before the options were obtained; and in a few cases preliminary title work was begun even before the Administrator had officially approved the project.

the right to repurchase at the original price plus value of improvements.

Helsinki owned nearly 13,000 acres of suburban land before the war, and accordingly found it unnecessary to use expropriation for housing. Stockholm began buying as early as 1880, but much of this land was resold for new housing and other approved uses. After 1904, the city began buying land up to eight and a half miles from its borders, to provide public property for later expansion. When the war began in 1939, Stockholm owned over 21,000 acres, some five times the area of the whole city in 1904. Stockholm, however, has also made considerable use of expropriation.[1] Berlin, Cologne, Munich, and other German cities also owned before the war substantial proportions of the areas within and around their borders.[2]

This favourable European experience argues for the inclusion of open market purchase among the methods of public land acquisition, especially for long-run planning. However, straight purchase tends to be too slow or too expensive or both when land must be acquired quickly for immediate use.

Condemnation Procedures

There is general agreement among public works planners that both on grounds of cost and on grounds of timing, public authorities must have the right to obtain land by condemnation[3]. The right may be seldom exercised, but the power itself greatly strengthens the bargaining power of the government authority in buying land.[4] Nearly all Governments have some powers of expropriation for "public purposes", but the effectiveness of these powers varies widely from one country to another and even within individual countries.

Condemnation proceedings in Belgium were permitted under a law of 1 July 1858, for improving the health conditions of a district

[1] On land ownership and acquisition in Scandinavia, see John GRAHAM: *Housing in Scandinavia* (Chapel Hill, University of North Carolina Press, 1940), Ch. 1.

[2] Guy GREER, in "After the Plans, What", in *Fortune*, July 1944.

[3] "History affords a few instances of voluntary replanning of land, but this method can hardly be successful unless the number of landowners is small, the value of their land relatively low, and the benefits of the project obvious and universal. In general, there can be no successful replanning of decaying urban areas without the power to condemn land." (NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part II, p. 16.)

[4] Only 10 per cent. of the land acquired by local housing authorities under the United States Housing Authority programme was condemned, but the use of the power even to this extent was considered enough to hold the prices paid for the other 90 per cent. to reasonable levels. The United States Resettlement Administration condemned no land whatsoever for its "green belt" housing projects, but the mere possibility of condemnation was enough to prevent exorbitant prices.

(*l'assainissement d'un quartier*), for construction in conformity with an approved plan, or for resale to private enterprise for construction in accordance with such a plan. Restrictive interpretation led to a new law of 15 November 1867, generalising the powers of expropriation for any public works designed "to make healthy [*assainir*] or improve an old section in whole or in part, or to build a new section", and for land needed for public ways or services or any projects included in a master plan.[1] Usually an effort is made to negotiate before resorting to expropriation, and a "just and previous indemnity" is paid.[2]

In most Canadian provinces, the method of acquisition is for the province or a municipality to declare certain land necessary for a public purpose, whereupon legal title passes immediately to the public authority and work can begin at once. An arbitrator is appointed to consider the proper value of the land, and to determine who should receive payment. This system is speedy, but is often expensive. Judging from experience in the Provinces of Ontario and Quebec, where public authorities usually expect to pay 20-25 per cent. more than the assessed value of property acquired, it is the public rather than the private owner that loses most often under this system. The private owner, having no recourse but to sell his land at the price fixed by the arbitrator, is apt to be the object of solicitude by the court, and the prices paid are usually well above the assessed value. The Netherlands[3] also uses this method of expropriation.

In France, powers of expropriation are conferred by an Act of 1935 (Article 545 of the Civil Code) which replaced a much earlier law of May 1841.[4] Expropriation is permitted only for a "public purpose", with "just and prior compensation". The Act gives no définition of "public purpose", but it has been broadly interpreted. The powers can be used on account of any of the following bodies:

(1) Public administrations: the State, departments, communes, and autonomous colonial services;

(2) Concessionaires of public works, operating in the name and on the account of the administration;

(3) Concessionaires of electric power distribution declared public utilities;

(4) Concessionaires of hydro-electric undertakings declared public utilities;

(5) Among public establishments—

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[1] The master plan must show the area of lands and buildings needed, the name of each proprietor, the projects to be executed on these lands, and the parcels of land to be resold or to be used for new streets or parks.

[2] Cf. "Expropriation pour cause d'utilité publique", in *Le Mouvement Communal*, 30 Jan. 1926, pp. 350 *et seq.*

[3] *Ibid.*, p. 313.

[4] Cf. G. BAUDRY: *L'Expropriation pour cause d'utilité publique* (Paris, Librairie du Recueil Sirey, 1937).

(*a*) syndical associations authorised to execute sanitation, street, or other public works in cities, towns, and hamlets;
(*b*) the offices of the thermal, climatic, tourist, and grape industries;

(6) Concessionaires of mines, for "canals, railways, canalisations for transport of extracted products, necessary roads to the mine and rescue works", etc.

The multiplicity of steps involved in the process of condemnation is well illustrated by the case of France. The procedure is as follows:

(1) Administrative investigation to determine public utility;
(2) Declaration of public utility;
(3) Investigation by lots (*l'enquête parcellaire*);
(4) Decree of transferability (*l'arrêté de cessibilité*);
(5) Expropriation order;
(6) Determination of the compensation by the arbitration commission;
(7) Payment of the said compensation.

Before official investigation, a technical survey must be made, to determine the purpose of the project, borders, the disposition of important works, and costs.

For works in a single commune, the authority must first fix a date for opening the investigation, and publish the order. After that, the survey (*avant-projet*) must be deposited in the mayor's office for ten days. Another three days must be allowed to hear occupants and interested parties. The time limit can be further extended for presentation of the dossier of the occupants.

In Italy, powers of expropriation are based on a law of 25 June 1865. The interpretation of "public utility" under this law is very wide indeed. The concept can be applied not only to works undertaken in the public interest on the account of the State, provinces, or communes, but also those undertaken for a public purpose by legal persons, private companies, or individuals.[1]

The legal foundation for expropriation in Spain is the Eviction Act of 10 January 1879. The procedure involves a declaration of the public utility of the project, a declaration that the project requires expropriation of part or all of the land in question, a valuation of the land, and the payment of compensation. Arturo Hernandez, Director of the Madrid Urbanisation Company (*Compañía Madrileña de Urbanización*), says of this law that it "stipulates a complicated process, which is slow and costly and by which in many cases private interests predominate over those of the collectivity".[2]

[1] Cf. *Leggi sulle Espropriazioni per causa di Utilità Pubblica* (Rome, Stampería Reale, 1919), p. 6.
[2] Arturo S. HERNANDEZ: *The Problem of the Land in Spain* (London, International Federation for Housing and Town Planning, 1926), pp. 8-9.

In the United Kingdom, there were up to 1944 three methods of condemnation available; private Act, provisional Order confirmed by Act of Parliament, and ministerial Order. A private Act is an Act of Parliament operating upon particular persons and private concerns. It goes through a special procedure, which is not speedy, and it is not often used. Procedure by provisional Order is also cumbersome:

> It requires: (i) publication in local newspapers for three consecutive weeks during the latter months of the year of a notice describing the land to be taken and the purpose for which it is required; (ii) individual notices to all interested persons; and (iii) a local public enquiry which involves preparation of elaborate data. After the enquiry has been held, the Minister concerned must take formal steps, including the preparation of the Order. Even then, the provisional Order does not take effect until an Act of Parliament has been passed confirming it.

Procedure by ministerial Order is somewhat less time-consuming:

> No Act of Parliament is required, the Order is normally prepared by the acquiring authority, and takes effect on confirmation by the appropriate Minister. Otherwise the standard procedure is the same as for provisional Orders. . .

The procedure for exercising the powers obtained by provisional or ministerial Order is the same:

> Notice to treat must be served on every person (other than tenants from year to year or for shorter terms) having any interest in the land in question; the land and the interests in it remain vested in the existing owners until all matters of title and compensation have been disposed of and the property conveyed. The acquiring authority is expressly prohibited from entering on the land, save for purposes of survey, unless they have obtained the consent of the owners and occupiers or have paid the purchase moneys or compensation to the respective interested parties.[1]

It is clear that either of these methods could entail serious delay, as the Uthwatt Committee itself has emphasised.

In the United States there are two chief methods of condemnation. The most usual is a straightforward legal suit against the owner. In most States, it is only necessary that a court should find that the seizure of the land is necessary for a "public purpose" to enable the public authority to take over the property. Usually the court will also determine the value of the property, leaving the authority the option of taking the land at the price set or refusing it. In some States, however, the authority may file a "declaration of taking" before the legal proceedings are over, acquiring immediate title; but in this case the authority must keep the land and pay whatever award is made by the court.

[1] Uthwatt Report, *op. cit.*, pp. 66-67.

The second method of condemnation is the "administrative procedure". Under this system, the authority publishes its intention to condemn certain properties; the property owner may then present evidence to a commission appointed for the purpose of determining value. Usually an owner can appeal from the decision of the commission, and go through the standard court proceedings. In most cases, the authority may under this system dismiss proceedings if it considers the award of the commission or of the court too high.

According to the National Resources Planning Board:

> Each of the methods of condemnation has its advantages and disadvantages. The principal objection to the straight judicial proceedings is the time it takes, sometimes as long as two or three years, while its advantage is that at any time the Government can step back and dismiss the suit if the awards are too high. The declaration of taking procedure permits immediate taking, but obligates the Government to pay whatever the courts award, however unreasonable. The method of filing security, which permits the Government to take tentative possession until the award is made, is something of a compromise; but it obligates the Government to pay damages if the suit is dismissed, and leaves it the target of bitter feelings. The administrative condemnation has the same drawbacks as the declaration of taking methods, and, in addition, puts the burden of proof on the citizen, which may be considered either an advantage or a disadvantage.[1]

Inadequacy of Expropriation Powers

It should be clear from the foregoing discussion that powers of expropriation are not in themselves adequate to guarantee rapid acquisition of land at fair values. Especially is this true when public purpose must be legally determined and prices fixed *before* the land is taken over. An American planner says:

> It should be noted, however, that planners and public officials have long chafed under the delay, cost, and inefficiency of existing procedures for acquiring land by condemnation.[2]

The same concern is expressed by the United States Federal Housing Administration:

> By and large, the prevailing system by which cities acquire land is cumbersome, expensive, and generally has not kept step with the broadening of functions of local government that has been taking place during the past couple of generations.[3]

Where the declaration-of-taking procedure is vigorously used, as in the Canadian Province of Ontario, site acquisition need not be a serious delaying factor. However, even then legal difficulties

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[1] *Op. cit.*, Part II, p. 21.

[2] Robert A. WALKER: *The Planning Function in Urban Government* (Chicago, University of Chicago Press, 1941), p. 100.

[3] FEDERAL HOUSING ADMINISTRATION: *A Handbook on Urban Redevelopment for Cities in the United States* (Washington, D.C., Nov. 1941).

arise from limitations on the concept of public purpose. For example, in some countries (Canada, Finland) housing is not yet considered a public purpose and condemnation cannot be used in the acquisition of land for housing projects. Public housing will undoubtedly be a major item of post-war reconstruction programmes, and even private housing must be included in any comprehensive planning for urban redevelopment. Consequently, if post-war public investment programmes are not to be held up by the necessity of negotiating for land selected for housing projects, either negotiations must start at once, or legislation must be passed immediately to broaden the concept of public purpose.

Excess Condemnation

Excess condemnation is the practice, quite common in Europe, "of taking by right of eminent domain more property than is actually necessary for the creation of a public improvement, and of subsequently selling or leasing this surplus".[1] The power has been little used in the United States, being invoked mainly to solve the problem of lot remnants of odd shapes and sizes left by the construction of a new street or the widening of an old one. By condemning enough land in the neighbourhood of the improvement, the lot remnants could be assembled into usable areas. Excess condemnation is also used to protect the beauty and usefulness of public improvements, by affording easy access to them and providing adequate open space around them; but in such cases it is at least debatable whether the condemnation should be termed "excess". In Europe the policy has been utilised to acquire for the community as a whole the increase in land values in the neighbourhood of a public improvement. In this case, however, the land must be resold, and excess condemnation does not constitute a means of acquiring land for public purposes. There are obvious advantages in giving Governments power to condemn more land than is needed for immediate use, and to hold it for future projects. Such a practice would be more properly termed "advance condemnation" than "excess condemnation". On the whole, it does not seem that excess condemnation can be considered a separate device for land acquisition.[2]

[1] Robert E. CUSHMAN: *Excess Condemnation* (New York and London, D. Appleton & Company, 1917), p. 2.

[2] "The advocates of excess condemnation, so-called, claim that there are many cases in which land just outside the physical limits of the principal enterprise should be appropriated for purposes incidental and thus a part of it. To call this 'excess' condemnation is to admit that the claim is unfounded and the taking illegal. A better name would be 'incidental' condemnation; but it is probably too late to make the change." (Frank B. WILLIAMS: *The Law of City Planning and Zoning* (New York, The Macmillan Company, 1922), p. 59.

Timing and Long-Term Leases

One of the factors making site acquisition an obstacle to the proper timing of public investment is the prevalence of long-term leases. In the United Kingdom, leaseholds of 500 to 999 years are common. In the United States, there are a few instances of leases for such periods, and many leases run for 99 years. The disadvantages of long leases from the viewpoint of urban planning were summarised by the National Resources Committee:

> Due to the fact that buildings on leaseholds revert to the landlord, tenants often refuse to make improvements toward the end of a term. As a consequence, buildings and neighbourhoods are neglected and become dilapidated. There is no incentive on the part of the lessee to keep the property in good shape. The value placed on the land, in or near the important business districts, is so great, however, that it might strain the city's financial resources to cope with the evil through condemnation proceedings. The existence of more than one party in interest, each with powerful resources, makes such proceedings more difficult and expensive than ever. Furthermore, the trustees of estates having an assured income from long-term leases often refuse to sell the reversionary interest in the property and thus retard important business or neighbourhood developments. In some instances, where the leased property is but a small part of the property to be assembled, the owner becomes, for all intents and purposes, a "hold-out".[1]

The Committee considered that "leases in excess of 99 years, irredeemable leases, and those providing for renewals in perpetuity are detrimental to the public interest and should be forbidden by statute where no such legislation exists".[2]

Tax Reversion

In nearly all cities and in some rural areas, there is land that does not earn enough to pay the taxes levied on it. Most Governments have the power to appropriate land after a certain period of tax delinquency. In some communities it would be possible to acquire substantial amounts of land for public purposes in this manner. In the United States, for example, tax delinquency is a common phenomenon, especially during depression periods. In 1933 half the cities with a population of over 50,000 had tax delinquency rates of 25 per cent. or more. Even in the relatively good year 1938, the accumulated unpaid taxes in most of these cities amounted to nearly half the current levy for the year.

Tax delinquency is a problem in itself, and the seizure of delinquent properties for public purposes may be the best solution in some cases. In New York City a large proportion of tax delinquent property has been in slum or blighted areas, and consequently much of the land needed for the city's slum clearance and public housing

[1] NATIONAL RESOURCES COMMITTEE: *Urban Planning and Land Policies* (Washington, D.C., 1939), p. 257.

programme was acquired by tax reversion. The city actually receives some 35 per cent. more revenue from its housing projects than it received from the slums they replaced. Other American cities have also made good use of tax delinquent properties. Indeed, on the sites of the first 28 projects of the U.S. Housing Authority, the average tax delinquency amounted to two years' levies.

There are, however, serious objections to relying on tax reversion to any great extent. First of all, tax delinquency usually reflects inadequacies in the tax system: either the assessment or the rate is too high. In the older sections of large cities, land is often tax delinquent because it is assessed for values long since departed, or even for values that never developed. Another frequent cause is premature subdivision of suburban areas. Tax delinquency on agricultural land usually reflects erosion, exhaustion of the soil, crop damage, or the collapse of a market. Assessors are slow in acknowledging changes in the value of land from such factors. In other cases, the value of adjacent property is ascribed to land which has not the same productive capacity. In all such cases, it seems clear that the solution of the problem is not for the public to seize the land, but for the tax system to be revised.[1]

Another obvious difficulty is that land that happens to be tax delinquent may not be at all suitable for the public purpose at hand. Still another is that in some countries tax reversion does not provide the public authority with clear title to the land.[2] Under the law of many American States, municipalities are required to sell land acquired by tax reversion.[3] Finally, and most important for the subject of this Report, tax reversion is an extremely slow means of obtaining land. As pointed out by the U.S. National Resources Planning Board:

> It takes from 3 to 5 years or more after the first year of delinquency before

[1] "The problem of the use of tax abandoned land begins, in our opinion, long before the land becomes tax abandoned. In other words, much of the land that is foreclosed for taxes or for local improvements has either been assessed at too high a value or the improvement assessments that have been placed upon it have added a weight of cost that the land will not economically stand." (AMERICAN SOCIETY OF PLANNING OFFICIALS: *National Conference on Planning, July 8-11, 1940,* Chicago, 1940, p. 135.)

[2] "It is a common feature of tax collection law in some States not to provide for the State or any of its subdivisions taking definite title to tax delinquent lands. Ordinarily, either the State or the county takes what is known as a tax deed, but this deed in numerous instances does not constitute a clear title to the land. Such a deed is often subject to attack on various technical grounds; meanwhile the State or county hesitates to provide management and spend money on land to which it does not have a clear title. Moreover, the practice is often not to retain the tax delinquent land in public ownership, but to replace the land on the tax rolls by transferring title from the delinquent owner to a new private owner who presumably will pay the taxes." (NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part II, p. 11.)

[3] Cf. NATIONAL RESOURCES COMMITTEE, *op. cit.*, p. 241; see also, pp. 250 *et seq.*

the State or county can take title, and about the same number of years elapse after this during which the private owner has the right of redemption. In order to protect the owner, State legislatures often extend both these periods or declare a moratorium. During this interim, a great deal of harm may be done to the land and the people living on it, and public services may have been supplied at too high a cost. These considerations may, in various instances, make public purchase desirable as a catalytic process, even though the land eventually would revert to public ownership through tax delinquency.[1]

Gifts, Exchange, and Foreclosures

Historically, gifts have provided substantial areas of land to public authorities, particularly for parks. In the United States, one third of all municipal park acreage was acquired by gift[2], and in other countries the experience is not dissimilar. Obviously, however, no public authority can plan its public investment programme on the assumption that the needed land will be given to it whenever it wants to start work. The possibility of gifts must be considered in long-range planning, but is not an important aspect of timing.

Many cities have come into possession of scattered lots which together constitute sizable areas. Where such conditions exist, there is always the possibility of assembling contiguous areas for public development by exchanging publicly owned lots for privately owned. Even where no legislation exists that would permit such a procedure, as in the Canadian Province of Ontario, the same effect can be obtained by "buying" the desired lots and "selling" the publicly owned lots to the same person. The system of exchange has been utilised to good effect by the United States Forest Service, and on occasion by a large number of cities in various countries. However, it is clear that to acquire parcels of land by exchange the public authority must already own land in sufficient volume; and there is no reason to suppose that exchange will be any more speedy than purchase.

Similar criticisms apply to reliance on foreclosure for obtaining land in connection with a timing policy. In the first place, the authority must have property under mortgage, as is the case with the American Home Owners' Loan Corporation, Federal Housing Administration, Federal Deposit Insurance Corporation, and Federal Savings and Loan Insurance Corporation. Second, the land under mortgage must be in the right places and of the required area. Third, the mortgage must be in default. In isolated cases

[1] NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part I, pp. 11-12. See also U.S. FEDERAL HOUSING ADMINISTRATION: *A Handbook on Urban Redevelopment for Cities in the United States* (Washington, 1941), pp. 78-79.

[2] NATIONAL RESOURCES PLANNING BOARD, *op. cit.*, Part II, p. 27.

foreclosure may prove an adventitious means of acquiring land, but it is clearly no solution of the general problem.

Indeed, no simple solution of the timing problem related to site acquisition has been discovered in this brief survey of the various means available. The problem must be squarely faced if the objectives of a timing policy are to be achieved.

Advance Pooling of Land

The complaint of the United States National Resources Committee that "inefficiency, clumsy procedures, legal difficulties, conspicuous extravagance, and graft are found in the land acquisition history of all too many cities"[1] may apply to other countries besides the United States. The difficulties and delays involved in piecemeal acquisition of land for public purposes has led to a widespread conviction among community planners the world over that public control of land use is necessary. This sentiment is particularly prevalent in Great Britain, where popular interest was stirred by the Barlow, Scott, and Uthwatt Reports.[2] Indeed, in that country the discussion among community planners no longer centres upon the question of "whether" control of land use should be granted to some public authority, but rather upon "how" the necessary control should be obtained. There are three main proposals: nationalisation of all land; municipalisation (perhaps including county ownership in rural areas); and pooling under private ownership. The Uthwatt Committee concluded that if it had regarded its terms of reference as an "academic exercise without regard to administrative or other consequences, immediate transfer to public ownership of all land would present the logical solution", but objected to nationalisation on grounds of impracticability. The Committee believed that nationalisation would arouse political controversy, cause delay, involve cumbersome financial operations, and require complicated administrative machinery.[3] It recommended instead the transfer to the public of all development rights on agricultural, forest, and other vacant land, the gradual transfer of built-up areas to local public authorities as need arises, whether for immediate use or for planning, and the control of use in the meanwhile by a central planning authority.

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[1] *Op. cit.*, Part II, p. 230.

[2] It is by no means confined to the United Kingdom, however. The Washington, D.C., Chapter of the American Institute of Architects, for example, states that "while only a small portion of private property need be acquired immediately, the ultimate realisation of the master plan will require the eventual acquisition of a large proportion of all land within the urban area". (G. Holmes PERKINS (editor): *Memorandum on Urban Planning*, Postwar Planning Committee, Washington, D.C. Chapter, A.I.A. 1945, p. 6).

[3] Uthwatt Report, *op. cit.*, p. 27.

The British Government accepted the recommendations of the Uthwatt Committee "in principle", but felt unable to adopt its specific proposals because of certain problems:

(*a*) The recommendations provide substantially different treatment for —

(i) owners of undeveloped land outside town areas;
(ii) owners of undeveloped land inside town areas;
(iii) owners of developed land.

In the view of the Government it is desirable to avoid such a differentiation of treatment as far as possible.

(*b*) The demarcation of "town areas" for the purpose of determining on what land the development rights scheme should operate has been shown, by experiment, to present a formidable administrative task; and, inasmuch as an owner would gain or lose according to which side of the line his land fell, it would give rise to much controversy and dissatisfaction.

(*c*) The basis of compensation proposed by the Uthwatt Committee follows closely that incorporated in the Coal Act, 1938, but it presents great difficulties in its application to land in view of the very different problems involved, the varying magnitude and large number of individual interests, the lack of data on which to base valuations, and the present uncertainties of future development and future values.

(*d*) The scheme for a levy of 75 per cent. of increases in annual site value would be extremely complicated in operation, and its efficacy, from the revenue-producing point of view, is open to doubt. Moreover, the levy is proposed even on increases which may already have been paid for by the owner, as for example if he has bought land with a view to more intensive development later on, for which he may even have obtained express planning permission.[1]

The Town and Country Planning Act passed in November 1944 was accordingly less far-reaching than the proposals of the Uthwatt Report, although it represents a considerable advance over previous legislation in Great Britain and over the land acquisition law of most other countries. In general, it provides for a tighter control of land use by the Government and for the use of expropriation for a wide range of reconstruction, development, and planning purposes, and it establishes the land values obtaining at 31 March 1939 as the basis of compensation. The Act is discussed in more detail in Chapter XIX.

A proposal that aroused much discussion among American public officials is the Greer-Hansen plan for urban redevelopment.[2] With regard to site acquisition, the proposal is that municipalities should acquire possession of all land needed for public development purposes, and all land which is not being used in a satisfactory manner. All slums and blighted areas and all other land relegated

[1] MINISTRY OF TOWN AND COUNTRY PLANNING: *The Control of Land Use* (London, H.M.Stationery Office, Cmd. 6537, June 1944), pp. 6-7.

[2] Guy GREER and Alvin HANSEN: *Urban Redevelopment and Housing*, National Planning Association, Planning Pamphlets No. 10 (Washington, D.C., Dec. 1941).

to public purposes would thus come into possession of the public authorities. The authors recommend that Federal financial aid should be granted for site acquisition, subject to approval of master plans by a central planning authority.

Among the advocates of pooling in private hands is Sir Gwilym Gibbon. He feels that land acquisition by local authorities was easier when it was mainly a matter of buying land outside their existing borders. Now, with populations relatively stable, the problem is rather one of gaining possession of land already occupied, and for such action the local authority is less well equipped. He also points out that the planning problem is more often regional than local and that many localities would not have the necessary skilled administration for large-scale land management. He is attracted by nationalisation as the easiest step to national planning, but fears concentration of power, mediocre administration, and lack of enterprise.[1] He favours compulsory pooling of individually owned plots into large, corporately held areas, under some measure of government control.[2] Such a system, known as *Lex Adickes*, has actually been widely used in Germany; but according to F. J. Osburn, "has been found cumbrous, and sometimes costly to the authority".[3]

All these systems of advance pooling have one thing in common; they all take time. Once accomplished, no further delays need arise in the acquisition of sites. However, if delays are to be avoided, land acquisition by wholesale pooling, no less than by piecemeal purchase, must be completed in advance.

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[1] *Reconstruction and Town and Country Planning, op. cit.*, pp. 52-53.
[2] *Ibid.*, Ch. VII.
[3] F. J. OSBURN: *The Land and Planning*, Rebuilding Britain Series, No. 7 (London, Faber & Faber, 1944). A related and interesting proposal is "time zoning". Under this device, limits would be set to the life of buildings, after which they must be fully amortised, and the land acquired by the municipality with no need of paying for obsolete improvements. (Cf. G. H. PERKINS, *op. cit.*, p. 8.)

CHAPTER VII

PROBLEMS OF COMMUNITY PLANNING

If investment, whether public or private, is to be successful year in and year out, it must be planned. Planning is not a special attribute of government, or of any particular kind of social, economic, or political system. On the contrary, "every responsible organisation, whether business or governmental, is properly concerned with planning".[1] Even in the days of most complete *laissez faire*, neither private nor public enterprise was entirely planless. It is true that in the past, when economic organisation was more simple and economies were rapidly expanding, unrelated planning by thousands of individual entrepreneurs in terms of their own profits, while often wasteful of human and material resources in the long run[2], was relatively safe for the investor, and brought with it considerable social and economic progress. However, as frontiers have disappeared, as population growth has tapered off, technical progress become more of a routine, and the world economy more and more complex, the need for *integrated* planning has become more and more apparent.[3] In these days, not even the private entrepreneur risks his capital or his reputation without making a careful survey of the proposed project, to ascertain the need for its product, its probable cost, and the most efficient manner of undertaking it. Indeed, private enterprise itself is devoting more and more time and effort to planning, evidenced in some countries by

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[1] Jacob BAKER: "Private and Governmental Planning", in *Housing and Community Planning* (Montreal, McGill University, 1944), p. 24. See also, Charles E. MERRIAM: "Planning in a Democracy", in *National Conference on Planning* (American Society of Planning Officials, *op. cit.*), especially pp. 177-178.

[2] Examples are the "mining" of forests and soil in the New England States and in the Maritime Provinces of Canada, the "dust bowl" area in the American prairies, and the slums, blighted areas, and ugly middle-class suburbs of most large cities. With regard to cities the world over, Dr. Thomas ADAMS, one of the fathers of scientific town planning, points out "that merits or defects in towns have not been owing to the presence or absence of planning but to the way in which the planning has been done. The chief defects in modern cities are because of piecemeal planning, mainly by real estate developers in their private interests and without adequate consideration for the community as a whole." (*Outline of Town and City Planning*, New York, Russell Sage Foundation, 1935, p. 21.)

[3] Cf. George B. GALLOWAY and Associates: *Planning for America* (New York, Henry Holt, 1941), Ch. 1.

the swelling throng of management consultants, efficiency experts, investment consultants, and other business advisers. Trade and manufacturing associations, chambers of commerce, and the like are engaging in planning on an ever growing scale. Private enterprise — including labour and agriculture — is taking more and more interest in economic research.

If integrated planning is necessary for successful private investment, how much more essential is it for public investment, which is more directly concerned with the interests of society as a whole! Unfortunately, when depression hit the world in the 'thirties and unemployment swelled to disastrous proportions, many countries found themselves with inadequate plans for public investment. Where belated efforts were made to stem the tide of deflation by public work expenditures, it was necessary to sacrifice planning for speed. Considering the handicaps under which newly created authorities worked, the results were good; but they were not good enough to prevent the general public, and even some public works employees, from associating public work with inefficiency, waste, and planlessness.

The volume of public investment that will be needed in the next decade for reconstruction, national development, and the maintenance of full employment, is likely to exceed anything undertaken in the 'thirties. If there was popular resentment against imperfections then, how much stronger could it become if the post-war period saw a repetition of the errors of the 'thirties on a larger scale! Indeed, if public investment as an instrument of economic policy is not to be discredited for decades, it is essential that projects carried out in the next few years should be useful, efficiently executed and administered, well integrated with other public and private activities, and thus completely dissociated from the concept of "boondoggling".[1] In a word, public investment must be properly planned.

In the previous chapter, the need for a single central government agency to integrate the planning, financing, and execution of public investment was pointed out. It is worth stressing, however, that the integration of public investment planning need not mean the domination of planning by the central Government. On the contrary, experience suggests that efficient planning in democratic countries consists more of "planning from below" than it does of "planning from above". Plans for a city should spring from the wishes of the citizens of that city, and should be translated into concrete form by an appropriate body within the municipal gov-

[1] "Boondoggle" was the picturesque term used in the United States to describe a make-work project of little or no intrinsic value.

ernment, perhaps with assistance and guidance, but not with direction, from higher levels of government. These plans can then be communicated to the planning agencies of higher levels of government, whose task it is to integrate them with the plans of other communities, and to make sure that the interests of other localities, States, or provinces, and of the nation as a whole, are not sacrificed to the wishes of any one group of citizens. An example of this sort of planning is provided by the United States Public Work Reserve, and by some phases of the work of the United States National Resources Planning Board.[1] It is also exemplified by many of the relationships between the central Government and the local authorities in the United Kingdom, and between the Commonwealth and the States in Australia.

The Need for Planning Agencies

The comments made in Chapter VI regarding the execution of public investment apply almost equally well to planning. Before planning operations can be carried out, the necessary machinery must be organised, personnel acquired, and funds appropriated for planning, at all levels of government. In some cases, enabling legislation must be passed before an authority can add the planning of public investment to its functions.[2] Such matters may delay the preparation of plans; and lack of plans means delaying the execution of projects still further, or carrying out public investment programmes in an inefficient and haphazard manner.

Composition of the Planning Agency

Because of the impossibility of laying down detailed criteria for choosing projects, the only real guarantee of good planning is the good judgment of the planning authority, and it may be useful to appoint an advisory committee to guide the authority concerned on the drawing up of plans. The composition of such a committee is extremely important[3], and the literature on planning contains a good deal of discussion on the subject. There is a

[1] Cf. Benjamin Higgins, *loc. cit.;* and George Merriam: "The National Resources Planning Board", in *American Political Science Review*, Dec. 1944.

[2] This statement holds even for a central Government (cf. Benjamin Higgins, *loc. cit.*, p. 599).

[3] "The choice that a city makes of a planner, or of planners, will determine the character of its plan — not so much because of differences in technical skill as of differences in the matter of personality, of philosophic approach, and of artistic conception. Whatever may be considered to be the proper theoretical scope of a plan, its scope in practice will be determined by the capacity for foresight and understanding of the planners and of those who employ them and define the limits within which they must work." (Thomas Adams, *op. cit.*, p. 28.)

considerable body of opinion to the effect that the planning committee should provide for direct representation of the legislative body, interested operating departments of government, citizen groups, and all related scientific professions.[1] Other writers favour a bipartite organisation, with a planning council composed of representatives of citizen groups and perhaps of the legislature, and with a planning board made up of technicians. Surveys, research, and recommendations would be prepared by the board. Final decisions might be made by the council, subject to approval by the legislature, or the council may merely advise the board.

Obviously, small towns and counties cannot afford a planning board comprising skilled engineers, economists, architects, sociologists, and so forth, all with a special knowledge of planning. At best, they can hire one or two professional planners with some knowledge in several of the related fields. Some system of sharing expert consultants must be devised. Professional assistance could be provided by higher levels of government, as was done in the United States through the National Resources Planning Board and the Public Work Reserve and is now done by various American State Governments for counties and municipalities within their borders. It is possible that more men will become professional "planning consultants" on a private enterprise basis, working for fees as doctors and lawyers do, and spreading their talents and staff over several communities.

Once the financial analysis discussed in Chapter V is completed, three main steps in planning remain: preparation of a master plan; preparation of a programme; and preparation of working drawings and specifications. The last step is discussed in Chapter VIII. In this chapter brief outlines of the other aspects of planning are presented, in order to underline the necessity of completing the planning phase of public investment programmes before an unemployment problem appears.

The Master Plan

The "master plan" is the end-product of planning land use and public service for a "community" — a city, county, province

[1] In the United States, State and local planning commissions have been heavily weighted with unpaid citizen members, representing mainly upper-income business groups. Dr. WALKER believes that this fact accounts for the conservatism of such commissions (*op. cit.*, pp. 150-154). Another disadvantage of this system is that few part-time lay planners have either the time or the interest to master the essentials of planning, or even to discover the nature of the problems of their community. According to Dr. Walker, "very seldom does a majority of any commission have any well-rounded understanding of the purposes and ramifications of planning" (*ibid.*, p. 157). As a result of his comprehensive survey of planning in local government administration, he concludes that planning commissions must have a considerable full-time technical personnel, covering a wide range of professional training (*ibid.*, pp. 330-336).

or State, region, or nation.[1] Its physical form is usually a series of maps and models showing the proposed ultimate use of every acre of land in the community, together with a report setting forth relevant statistics, descriptive information, results of surveys, services to be provided, and so forth. It is the concrete expression of decisions made by a planning authority as to the desired physical form and public personnel of the community, which helps "to prevent clashes between the public improvements made in different years" and to "avoid duplication and rebuilding".[2] It is "a synthesis of measures to be taken in order to solve the numerous problems pertaining to the rational planning of a community, to its extension, and sometimes to its partial rebuilding".[3]

Objective of Master Planning

The object of the master plan is to create an environment that will maximise the general welfare of the community. While much of the plan can be expressed in physical terms, some of it cannot; for, as pointed out by Ladislas Segoe, a master plan "must give expression . . . to other than the purely materialistic aspirations of the people of the community".[4] Professor Abercrombie of the University of Liverpool, one of Great Britain's leading community planners, reduces the objective of planning to "beauty, health, and convenience"[5], and stresses the necessity of combining all three in the plan. Pure design, without relation to the daily life of the people, "becomes theatricality, with the drawback that the scenery is of no flimsy sort that can be shifted at the close of the act". Beauty without health, picturesque as it may seem to the tourist, is equally unacceptable. Similarly, Professor Abercrombie believes that "the attempt to plan for *health* alone has proved disastrous"[6], and argues that "beauty and health stand condemned if they prevent commercial *convenience*".[7] A community should be planned to permit, and indeed to facilitate, the economic activity on which its livelihood depends. Through routes from home to

[1] For economy of words, the term "community" will be used to cover any area for which unified plans are made.

[2] Edward M. BASSETT: *The Master Plan* (New York, Russell Sage Foundation, 1938), p. 5.

[3] Aimé COUSINEAU, Director of the City Planning Department of Montreal: "Planning Public Services", in *Housing and Community Planning, op. cit.*, p. 73.

[4] Ladislas SEGOE: *Local Planning Administration* (Chicago, International City Managers' Association, 1941), p. 43. Speaking of urban planning, another writer states the objective of the master plan in very simple terms: "Planning is a means of guiding the development of a city so that it may at some future date be what its citizens want it to be" (G. H. PERKINS, *op. cit.*, p. 2).

[5] Patrick ABERCROMBIE: *Town and Country Planning* (London, Thornton Butterworth & Co., 1933), p. 104.

[6] *Ibid.*, p. 107.

[7] *Ibid.*, p. 108.

work should not be sacrificed to other ends, and industries should not be driven away altogether — for what use is a healthy, beautiful community to people who cannot find jobs there, or cannot get to the jobs they have without a damaging loss of time and energy?

A master plan is dynamic. It should be revised as the projects included in it are completed; it is "the easily changed instrumentality which will show a [planning] commission from day to day the progress it has made".[1] It should also be modified as new community wants appear, or old ones disappear. New techniques of transportation or construction, changes in taste, unforeseen changes in the size or composition of the population, new knowledge in the fields of public health, social relationships, political science, or economics — many such unpredictable developments will result in a changed conception of the ultimate goals of land use. Indeed, it is doubtful whether a good master plan is ever really "finished".[2]

Steps in Preparing the Master Plan

Community planning has not yet reached the stage where the student can pick up any one of a dozen basic texts on "Principles", with the assurance that the scope and treatment will be essentially the same in all of them. Planning has only recently become a special discipline, and treatises on the subject usually reflect the basic training of the author. This training is seldom in planning as such, but is usually in architecture, landscape architecture, engineering, geography, geology, sociology, law, economics, finance, or some other field related to planning. However, it is generally recognised in the literature on planning that the integration of all these approaches is necessary, and there is already a wide area of agreement as to the essential steps in preparation of a master plan.

Surveys.

The first step is to ascertain the existing situation in the community. This step involves surveys of many kinds, requiring almost as many varieties of specialised training. L. B. Escritt lists forty types of survey as a necessary basis of physical planning[3]; but this

[1] Edward M. Bassett, *op. cit.*, p. 5.

[2] Charles W. Eliot, former Director of the U.S. National Resources Planning Board, writes of the master plan:

> I fear that the analogy of planning a town with planning a building or an engineering structure has been overdrawn. An architect's blueprint shows a plan for a building, a static structure . . . But . . . a master plan for a growing dynamic community is an entirely different story . . . It is useful not as a blueprint to be slavishly followed, but rather as a proposal to be revised, fitted, changed, as soon as the ink is dry. (*Op. cit.*, p. 2.)

[3] L. B. Escritt: *Regional Planning* (London, George Allen & Unwin, 1943), pp. 20-22.

list will seem incomplete to the economist, political scientist, or sociologist, consisting as it does of an enumeration of geological and geographical features supplemented only by a very limited coverage of legal and demographic data.[1] Professor Abercrombie lists twelve major categories of survey, each of which has several subheadings: physical features; history, archaeology and architecture; communications; landscape survey; industrial survey; population; health conditions; housing; open spaces; land cultivation; administration and finance; and public services.[2] In point of fact, efficient planning requires the assembly of all data pertinent to the economic, social, and cultural life of the community. Needless to say, the information must be kept up to date; but once a thorough study of a community has been made, current revision is a relatively simple matter.

Organisation and Presentation.

When the surveys are complete, the information obtained has to be organised and presented in such a way as to facilitate interpretation and analysis. Much of it can be presented in map form; indeed, all forty of L. B. Escritt's surveys are designed for such presentation. The maps will vary in scale and type, and may be supplemented by models to depict land use in certain areas. Relief maps are particularly helpful. However, if planning is as wide in scope as it should be, and is not unduly limited to the physical aspects of the community, information will be gathered that cannot easily be reduced to maps.[3] Tables and graphs will be convenient for some of the material not subject to map presentation, and descriptive text for the rest. Clearly, the organisation and presentation of materials in the most convenient and revealing form requires a variety of expert skills, and considerable time.

Analysis.

Problems. If the information is reasonably complete and intelligently presented, a variety of problems will be evident in almost any community. In cities, slums and blighted areas will appear. Other areas, not yet seriously deteriorated, will prove to be endangered by the encroachment of commerce and industry on older residential districts, or by an exodus of population from the neighbourhood. Rural areas may show soil erosion, actual or incipient.

[1] The same observation applies to the U.S. FEDERAL HOUSING ADMINISTRATION'S manual, *A Handbook on Urban Redevelopment for Cities in the United States* (Washington, D.C., Nov. 1941), pp. 19-33.

[2] *Op. cit.*, pp. 133-135.

[3] Cf. Robert A. WALKER, *op. cit.*, p. 121.

Whether urban or rural, a community may have wrongly allocated land, reflected in traffic congestion, cluttered waterfronts, river and air pollution, lack of recreation facilities, and so forth. In either case, a growing population raises questions as to the desirable form of expansion, and a declining population questions as to the treatment of abandoned land and structures. High rates of incidence of fire, crime, delinquency, infant mortality, and death will suggest inadequacies in various public services. Racial or group conflicts will indicate other deficiences. Indeed, the problems facing the community planner are almost without number.

Solutions. The final step in the preparation of a master plan is to decide "what ought to be". Comparing the goal so determined with "what is" will show at once what has to be done to attain it. This step is clearly one calling for good judgment, and for the representation of all interested groups, as well as of all the various scientific disciplines that must be brought to bear to decide what is best for a community. The allocation of land among various uses will be one of the major expressions of such decisions.[1] A complete master plan, however, would also set goals for the provision of public services, which will usually be expressed in terms of personnel or equipment — such as number of police, fire, and health officials; school, hospital, and playground equipment; and so forth.

Town Planning

Historically, town planning is probably the oldest form of community planning. Some very presentable city planning was done in pre-Christian times in Egypt, Asia, Europe, and Latin America.[2] One reason for the earlier development of town planning may be that the need to resolve conflicting interests is more readily apparent when many people are crowded into a small area. Perhaps another reason is that the problems of land utilisation vary less from town to town than they do from region to region or from nation to nation. No doubt the fact that the town is older as a political, social, and economic unit than the region or nation has much to do with it.

The main steps in town planning are those outlined above; but because of the long tradition of planning for towns, it is possible to be somewhat more specific as to the contents of the master plan of a city. E. M. Bassett's list of elements of a town plan (streets,

[1] For a brief discussion of the principles and problems of land allocation, see A. W. ASHBY: "Economic Utilisation of Land in Planning Processes", in E. A. GUTKIND (editor): *Creative Demobilisation*, Vol. II: *Case Studies in National Planning* (London, Routledge, 1943).

[2] Cf. Thomas ADAMS, *op. cit.*, Part I; and Francis VIOLICH: *Cities of Latin America* (New York, Reinhold Publishing Corporation, 1944), Ch. 2.

parks, public buildings, public reservations, public utility routes, pierhead and bulkhead lines, and zoning districts[1]) would find wide acceptance, although some would insist on the addition of public services.

Methods of preparing master plans vary from place to place, but they have a common stamp, and are clearly time-consuming. As a rule, surveys will first be made to determine the existing situation and maps and relief models will be prepared, some showing the entire city and others showing small areas in larger scale and greater detail. On the basis of the surveys, the city might be divided into areas, classified as sound, endangered, impaired, or blighted. "Sound" areas would be those presenting no problems at the present time, and unlikely to present problems in the near future. An "endangered" area would be one in which the present utilisation of land is regarded as satisfactory, but which may deteriorate in value, or present social and economic problems, if certain incipient developments (such as encroachment of shopping or industrial sections upon a residential area) are not prevented. An "impaired" area is one in which land utilisation is already unsatisfactory for some reason or another. After such classification and analysis, treatment will usually suggest itself.

Regional Planning

Town planning, even if defined to include county planning, is not enough in itself to guarantee efficient public investment. The jurisdiction of any local government is limited, and many public works projects must be undertaken by authorities that can exercise control over larger areas. State or provincial highways and State or provincial educational and health institutions are examples of projects requiring planning by governments on the intermediate level. Regional authorities should have their own master plans if misuse of land and resources and conflicts between the plans of local governments are to be avoided.

Moreover, certain types of planning cannot be handled by any of the usual political subdivisions. River valleys, drought areas, watersheds, and certain harbours, metropolitan areas, forest or mining districts, wheat, corn and cotton belts, towns and their hinterland are examples of "regions" fitting no ordinary political category. The planning of such regions can be properly carried out only by regional authorities, or by close co-operation among the local authorities concerned. As has been pointed out by the United States National Resources Planning Board, "the major problem

[1] *Op. cit.*, p. 5.

areas frequently overlap State boundaries and yet cover only a part of the whole nation".[1] For example, in a certain Canadian province, the flood waters of the main river system are being directed into marshy areas, which are then used to raise muskrat and beaver. The execution of a flood control project further down the valley by the neighbouring province would ruin this profitable business. Which is more important, the flood control or the fur industry? Could the two objectives be reconciled? Such questions require an authority with powers extending beyond the boundaries of any one province.

The importance of regional planning has been recognised by nearly all professional planners[2], and by many Government agencies and committees dealing with post-war public investment. It was one of the major concerns of the U.S. National Resources Planning Board up to its demise in the summer of 1942, and several regional boards are in operation in the United States. The Scott and Uthwatt Reports in Great Britain stressed the need for regional planning, and the Ministry of Town and Country Planning has appointed ten regional planning officers, who keep in close touch with the local planning authorities. In July 1944, 167 joint executive committees had been set up for regional planning in England and Wales. Scotland has two regional planning advisory committees, covering the Clyde Valley and central and south-east Scotland; together these two agencies cover areas containing 75 per cent. of Scotland's industries. In Canada, the Advisory Committee on Reconstruction, the Subcommittee on Housing and Community Planning, and the Subcommittee on Conservation and Development of Natural Resources, all pointed out the need for regional planning authorities.[3] In Australia, the Commonwealth Housing Commission has recommended that the national Government should subsidise regional councils to assist them in planning.[4] No doubt many other countries are equally aware of the importance of regional planning.

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[1] U.S. NATIONAL RESOURCES COMMITTEE (later called National Resources Planning Board): *Regional Factors in National Planning and Development* (Washington, D.C., 1935), p. vii.

[2] See, for example; Arthur MORGAN: "Regional Planning . . . the TVA as an Example", in *Planning* (New York, National Municipal League, 1936), p. 44; John BLAND: "Regional Planning", in *Housing and Community Planning, op. cit.*, p. 51; Frank PICK: *Britain Must Rebuild* (London, Kegan Paul, Trench & Trubner, 1941), pp. 7-8; Donald C. STONE: *The Management of Municipal Public Works* (Chicago, Public Administration Service, 1939), p. 71.

[3] ADVISORY COMMITTEE ON RECONSTRUCTION: *Report* (Ottawa, 1944), p. 28; Subcommittee on Conservation and Development of National Resources, *Final Report*, p. 5; Subcommittee on Housing and Community Planning, *Final Report*, p. 171.

[4] COMMONWEALTH HOUSING COMMISSION: *Second Interim Report, dated 31st March 1944* (Canberra, Government Printer, 1944).

"The first problem in regional planning", writes Professor Bland, "is the definition of the region. The core is usually clear enough, but the boundaries are generally obscure unless the region is a neatly geographic one."[1] There is bound to be some overlapping of regional jurisdictions; the area constituting a region from one point of view will not conform precisely with delimitations of the regions from other points of view. There is sometimes a considerable degree of uniformity among different regions in the same geographical area. Professor Bland tells of a survey by the School of Planning of the British Architectural Association, in which sporting areas, parishes, telephone and postal districts, and other administrative and geographic areas were superimposed upon each other. While few boundaries actually coincided, there was remarkable uniformity. On the other hand, the National Resources Planning Board concluded that there was little coincidence of regions for various planning purposes in the United States.

Once the region has been determined, the steps in the preparation of a master plan will be the same as for a town or other community. However, the task of co-ordination and synthesis, and of reconciliation of conflicting interests, will obviously be more onerous for a region as a whole than for the individual municipalities within it.

National Planning

Ultimately, the efficient utilisation and development of a nation's resources requires national planning. On few questions has there been more agreement among post-war public investment planners than on this. In Great Britain, the Barlow, Scott, and Uthwatt Reports all recommended the establishment of a Central Planning Authority, and, as already mentioned, a Ministry of Town and Country Planning has in fact been set up. In Canada, the Advisory Committee on Reconstruction and the Subcommittees on Conservation and Development of National Resources, on Publicly-Financed Construction Projects, and on Housing and Community Planning all advise the organisation of a National Development Board.[2] In Australia, the Commonwealth Housing Commission proposes that a Commonwealth Planning Authority should be established.[3]

There should be a two-way relationship between local and regional planning agencies, and between these and the national planning organisation. National planning should be based funda-

[1] *Loc. cit.*, p. 51.
[2] *Report, op. cit.*, and Reports of Subcommittees, Part II, p. 5; Part III, p. 10; Part IV, pp. 16, 168-170.
[3] *Op. cit.*

mentally on local and regional planning, and local and regional plans must take into account the probable effects of national policies on the economic trends within the area for which the plans are made.[1] Plans for the nation as a whole should not disrupt the plans of subsidiary governmental or administrative units more than is necessary in the national interest; and subsidiary governmental units should avoid making plans that run counter to expressed national policy. At the same time, unnecessary duplication of effort should be avoided.

The steps involved in the preparation of a master plan for a whole country are not markedly dissimilar from those in town or regional planning. First, surveys must be made to determine the existing situation throughout the country. Second, areas where resources are satisfactorily developed and effectively utilised must be demarcated from those which are tardy in their development, or where resources are being wasted or misused, and from other regions where problems may arise if no measures are taken or controls exerted. Third, the projects needed to eliminate or prevent an unsatisfactory use of resources must be listed.[2]

In addition to the determination of national interests, the integration of the plans of subsidiary governmental bodies, and the reconciliation of these plans with each other and with the national interest, there is another, and perhaps even more important, function of national planning. National policy must aim at providing an economic, political, and social environment in which all other planning agencies — including private firms and individuals as well

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[1] Ladislas SEGOE, in his comprehensive work on *Local Planning Administration, op. cit.*, points out that "national forces, policies, or programmes may have very marked effects on conditions and developments in the city . . . It is, therefore, essential that planning and other municipal officials inform themselves on national planning policies and programmes." He mentions national agricultural, highway, education, flood control, power, defence, and tariff policies and programmes as examples.

[2] The following, more comprehensive outline of the general functions of a central planning authority is given by the Australian COMMONWEALTH HOUSING COMMISSION, *op. cit.*:

(1) To survey, investigate and report upon the physical and economic resources of Australia;
(2) To co-ordinate the work being planned in existing Commonwealth departments and by State departments;
(3) To formulate a plan to develop primary and secondary industries, national works, housing, the general economic structure of the community, and, in particular, to foster and encourage regional and town planning;
(4) To maintain contact with all organisations concerned with planning so that planning is not imposed from the top, but takes place simultaneously through the various bodies concerned;
(5) Eventually, to direct the planning of existing Commonwealth departments and to advise State Governments so that the plans of different sections will agree with the general plans for the Commonwealth;
(6) To supervise the activities of the proposed Commonwealth Community Facilities Committee.

as State, provincial, regional, and local government authorities — can plan with reasonable foresight and confidence. In face of economic fluctuations and political upheavals of the sort the world has suffered since 1913, who could make plans flexible enough to meet all contingencies? And as stressed in the opening chapter of this Report, the prevention of such fluctuations and upheavals requires in the final analysis not only *national*, but also *international*, planning.

The Programme

Once the master plan is in existence, the next step is to determine the order in which the needed projects should be carried out. Priority ratings may be ascribed to the various projects, and their execution scheduled over a 5 to 10-year period, in accordance with the financial capacity of the Government unit concerned. Projects indicated by a comparison of the master plan and the existing situation, but which cannot be undertaken during the 5 to 10-year period, should be relegated to a reserve. Projects for the first year must be incorporated into the budget of that year. This schedule of projects to be carried out in a definite order over specific periods, plus the reserve of projects to be executed whenever funds become available, constitutes the programme of the community.

Relationship of the Programme to the Master Plan

The terminology of planning has yet to crystallise, and differences among various statements as to what constitutes the master plan and what constitutes the programme are often mere matters of definition. As used in this Report, the term "master plan" means the statement of ultimate goals; and since the plan undergoes constant revision, it never legally binds the government concerned to any positive action. It is desirable to have the master plan given official status by the legislature of the community; but such status should imply only legislative sanction of the expressed aims, and should not guarantee that any specific projects will be undertaken at any given time. Legal adoption of the plan provides the government with authority to prevent any private or public body from undertaking new developments that would conflict with the plan in its most recent revision. As the plan is revised, it can be reviewed by the legislature.

The "programme", on the other hand, represents decisions on the part of the authority to undertake specific projects at definite times, and should be legally binding. Not that the programme is

inflexible; indeed, periodic review and revision is the very essence of good programming. As each year's projects are completed, another year's work must be added to the programme. The projects for the additional year may come out of the reserve, or they may be new projects, the need for which has become apparent in the time since the programme was drawn up. The order of other projects might be changed. Only projects listed for the next year's operations, constituting the budget of the community's government, represent irrevocable decisions. Indeed, under emergency conditions, even the budget might be revised. One of the chief advantages of programming is that it guarantees periodic review of proposed community expenditures and revenues, so that few ill-conceived projects will be undertaken, and few communities will outrun their resources. Nevertheless, if it is to be completely effective, the programme must be legally binding unless it is revised, and must commit the government to *positive* action; while the master plan need only commit it to the *negative* action of preventing operations contrary to the plan.

A question sometimes raised is the extent to which programmes, or even master plans, should be published. There is much to be said for acquainting the citizens with the government's plans, in order to provide opportunities for expression of opinion. But once the public knows that a government is committed to using a certain area for public housing, or a park, or a new street, or any other public purpose, there is grave danger that speculation in the land will drive prices to exorbitant levels. This danger has led some professional planners to advise publishing only maps showing general uses of each area (residential, commercial, industrial, etc.) without showing what areas are to be acquired for public use. The answer to the question would appear to be that the greater a government's powers to acquire land at its true value, the more detailed can be the publicity given to its plans.

Assignment of Priorities

The rating of projects according to relative importance, as a basis for scheduling them over a period of years, is the essential problem of programming. To enable priority ratings to be assigned, it is useful to have all the proposed projects first listed on standard forms giving the essential information about them, as was done, for example, by the United States Public Work Reserve.[1] The name of the proposing authority, a brief description of the project, a short statement of why it is needed, its probable initial

[1] Cf. Benjamin HIGGINS: "The United States Public Work Reserve", *loc. cit.*

and continuing cost, the time required to prepare plans, and the time required to execute the project, are among the items that might be included.

In assigning priorities, there are two general approaches that can be considered. One approach is to rate the projects solely in terms of their product effects (*i.e.*, the utility of the projects as such), and to add marginal projects to the programme until it is big enough to maintain full employment. In this case, the process effects are important only in estimating the total number of projects needed to fill the deflationary gap year by year. A second approach is to give the process effects greatest weight in the assignment of priorities, rating highest those projects that will create the most employment, directly or indirectly.

The second approach will minimise the cost of public investment, but has some dangers. First, as will appear more clearly below, process effects are difficult to estimate at best, and few local governments will have available either the actual data or the personnel to collect and interpret these. Second, local governments are apt to think primarily of on-site employment, and to ignore off-site employment which may occur in areas outside their jurisdiction. Secondary effects are even more likely to be overlooked. Finally, if local governments rate the projects mainly according to their process effects, there is grave danger that the public investment programme will acquire a "boondoggling" aspect. For these reasons, there is much to be said for having local governments think primarily in terms of the direct social utility of the various proposals, leaving it to the regional or central authority to decide whether or not it wants to consider the relative effects on income and employment in allocating its financial assistance.

Criteria for Assigning Priorities in Terms of Product Effects.

There are no clearly established criteria for determining the direct utility of a public investment project.[1] A few examples

[1] J. M. CLARK, in his classic work on *Economics of Planning Public Works* (Washington, D.C., Government Printing Office, 1935, pp. 51-58), shows how vague are the criteria for choosing public works. There is, he contends, "no universal formula". "Different processes have to be used according to the nature of the works in question." Where possible, he believes, the economic value of public works should be estimated in money terms, and suggests dividing them according to their value and urgency into four general classes, "naturally somewhat vague". Grade A works properly belong in a rational 5 or 10-year programme; there are limits to the extent to which they can be postponed without too great sacrifice of the values to be received from them. Grade B projects are those not clearly inferior to Grade A, but which would not be included in a programme of customary scope. Grade C projects are those of substantially inferior value, justifiable only as a substitute for relief where the relief burden is large. Grade D projects are those "whose value in themselves is so low as to be almost negligible", but which may be used where a definite amount of relief has been decided upon and no better projects can be found.

from American experience (which alone is readily accessible) may, however, give some guidance as to the sort of things that might be considered.

The National Resources Board, in its Report for December 1934, recommended consideration of the following criteria:

(1) Criterion of balance — proper proportion between expenditures for different kinds of public works.

(2) Criterion of service standards — deficiencies measured by arbitrary standards of service somewhere near the peak of actual accomplishments.

(3) Criterion of essential services — such as water supply, sewage disposal, fire protection, physical conditions, and population concentration being considered.

(4) Criterion of cost, including available income, amounts available for particular classes of public works, value received at given cost, etc.

(5) Criterion of relative need and relative benefit.

(6) Criteria of trends, growth and development potentialities, etc.

(7) Criterion of emergency — such as expenditures occasioned by fire, flood, etc.

(8) Criterion of social and economic desirability.

The chief criterion applied by the U.S. Reconstruction Finance Corporation was that the projects should be self-liquidating, and it was largely for this reason that so few works were actually undertaken with R.F.C. financing. Under the U.S. Public Works Administration, applications for funds were reviewed with respect to the social desirability of the proposed projects, the extent of integration with other projects in the same State or locality, the speediness with which they could be initiated and completed, their proximity to a centre of unemployment, and legal, financial and engineering soundness. Some attention was also given to the extent to which the proposed projects would give employment to men of the type then on the relief rolls. The engineering and technical soundness of the project, the financial ability of the applicant to complete the work and to meet loans made by the United States Government, and the legal collectibility of the securities to be purchased by the United States Government, or the enforceability of any lease entered into between the applicant and the United States Government, were the chief criteria. More than three times as many projects were rejected on engineering as on legal grounds, and more than five times as many were rejected on financial as on legal grounds. Lack of adequate financial security was therefore the major reason for rejecting projects submitted to the Public Works Administration.

The U.S. Public Work Reserve suggested that the proposals submitted should be classified under three general headings: preferred, desirable, and deferable. It further suggested that the assignment

of priorities should be entrusted to a committee of interested State or local officials, preferably with the mayor or governor as chairman, and with a membership including the director of the planning board, the director of public works, the leading fiscal officer, and the chief engineer. It was felt that such a committee could eliminate conflicts and overlapping in proposed projects. Examples of such conflicts were cited, such as the new lake proposed for a park in a city where the municipal water supply was inadequate to fill the proposed lake, or proposals for new traffic arteries that would violate an adopted principle of locating schools so that no child would be required to cross a main traffic artery. The following specific considerations were suggested as being among the most important in assigning priorities:

Protection of life;
Maintenance of public health;
Protection of property;
Conservation of resources;
Maintenance of physical property;
Provision of public services;
Replacement of obsolete facilities;
Reduction in operating costs;
Public convenience and comfort;
Recreational value;
Economic value;
Social, cultural or aesthetic value;
Promotional value through effect on future developments;
Relative value with respect to other services.

The Subcommittee on Publicly-Financed Construction Projects of the Canadian Advisory Committee on Reconstruction suggested that, in addition to standards relating specifically to labour and employment, and to financial, technical, and legal factors, the following "general" standards should be applied in the evaluation of projects:

(1) Will the project increase directly or indirectly the economic or industrial efficiency of the region concerned (or in the country generally)?

(2) Has the project special relationship to additional works which may be necessary for the readaptation of industrial plant or other facilities of the district from wartime to peacetime uses?

(3) Is the project concerned with amenities which increase productivity or which help to produce a revenue indirectly (such as highways, waterways, pipelines or other transport facilities, communication facilities, certain conservation or land drainage measures, etc.)?

(4) Is the project concerned with new construction, additional works, or maintenance or repairs deferred owing to the war?

(5) Will the project contribute to the welfare of the community (*e.g.*, in the form of recreational, educational, cultural, public health facilities, etc.)?

(6) (*a*) To what extent are locally produced materials and equipment available to the project? (*b*) Will the project compete with existing local industries?
(7) In what other ways, if any, is the project of particular relevance or importance in this particular area?

No detailed list of criteria could be formulated that would meet universal acceptance. The relative importance of different factors will inevitably vary from place to place and from time to time. Each governmental unit will have ideas of its own on the usefulness of projects, and properly so. By way of generalisation, one can do little more than state the axiom that projects necessary to prevent conditions from getting worse should take precedence over projects designed to make things better. As a preliminary step, projects could be assigned A, B, C, or D ratings, according as they are:

A. Essential to life, health, or safety;
B. Essential to the economic activity of the community;
C. Essential to social welfare; or
D. Essential for cultural and aesthetic development.

Within each category, ratings must be largely of *ad hoc* nature, assigned with the best possible judgment.

Assigning Priorities in Terms of Process Effects.

Any Government, central or subsidiary, may choose to give some weight to the process effects of its public investment when assigning priorities to particular projects. The advantage of doing so is that by composing the programme of projects that will contribute most to employment, directly and indirectly, the budget and deficit needed for full employment is minimised.

For a nation as a whole, this statement holds only if all process effects — primary, secondary, and tertiary — are taken into account. For a single local government, only those effects that create employment within the locality are relevant to the size of programme or deficit needed to eliminate unemployment in the locality. For this reason, local governments, if they attach importance to the employment aspects of their public investment at all, are inclined to think mainly in terms of on-site employment. Ranking projects according to on-site employment alone will conflict with national employment policy unless the discrepancies between on-site and total employment-creation are not large. In view of this situation, and of the fact that local governments seldom have the necessary data for determining total process effects, there is much to be said for leaving such considerations to the national Government. It alone is concerned with the total effects of public investment in the country as a whole.

However, a national Government, which has an interest in minimising its budget or its deficit, may decide to exercise control over the public investment of local governments, by making its grants-in-aid conditional upon the undertaking of those types of project that have large process effects. In order to pursue such a policy, the government must be in possession of "labour patterns", that is, statistics on the volume of employment created by various types of project, including on-site, off-site, secondary, and tertiary employment. Unfortunately, the volume of such statistics is very limited. For the United States, a fairly wide range of statistics on primary employment has been prepared by the Bureau of Labor Statistics, for projects carried out under the Public Works Adminis-

TABLE 5. GREAT BRITAIN: PRIMARY EMPLOYMENT PROVIDED BY £1 MILLION EXPENDITURE ON VARIOUS TYPES OF PROJECT

(*1930 prices*)

Type of project	Man-years			Ratio: off-site to on-site man-years
	Total	On-site	Off-site	
Housing:				
Contract	3,990	2,350	1,640	0.70
Direct labour	4,650	2,690	1,960	0.74
Education:				
Contract	3,580	2,130	1,450	0.68
Direct labour	4,050	2,380	1,670	0.70
Public health other than sewerage:				
Contract	3,590	2,130	1,460	0.69
Direct labour	4,060	2,380	1,680	0.71
Sewerage:				
Foul-water drainage:				
Contract	3,710	3,220	490	0.15
Direct labour	4,580	3,850	730	0.19
Surface-water drainage:				
Contract	3,590	2,550	1,040	0.24
Direct labour	4,360	3,000	1,360	0.22
Roads:				
Main roads:				
Contract	3,110	1,240	1,870	1.51
Direct labour	4,390	1,720	2,670	1.55
Street works:				
Contract	3,610	1,830	1,780	0.97
Direct labour	4,510	2,240	2,270	1.01
Trading services	3,320	—	—	—
Miscellaneous services	3,500	—	—	—

Source: R. F. BRETHERTON, *et al.*, *op. cit.*

tration, and for a few Work Projects Administration undertakings. For Great Britain, the coverage is much narrower, and for Canada such statistics are available only for housing and for a very small number of public buildings. At the time of writing, no labour patterns have been obtained for other countries. Even the figures that do exist are not clearly comparable, because of differences in classification by size and by type of project, and differences in methods of computation. No figures whatsoever are available on the secondary and tertiary effects of particular projects, and these may well outweigh the primary effects in importance. Such data as are available are presented in tables 5 and 6.

TABLE 6. UNITED STATES: VOLUME OF EMPLOYMENT CREATED BY $1 MILLION EXPENDITURE ON VARIOUS TYPES OF PROJECT

(1940 prices)

Type of project	Thousands of man-hours of labour			Ratio: off-site to on-site man-hours
	Total	On-site	Off-site	
"W.P.A. Type" construction[1]	1,442	1,155	287	0.3
Bituminous paving	879	425	453	1.1
Grading and drainage	875	457	418	0.9
Reclamation	864	331	533	1.6
Highway bridges	850	348	502	1.4
Schools	830	347	483	1.4
Streets, roads, and highways	829	375	454	1.2
Post offices, etc.	806	326	480	1.5
Miscellaneous non-residential building	804	328	476	1.4
Concrete paving	804	356	448	1.3
Housing: Circulating heaters	803	353	450	1.3
Defence housing	780	339	441	1.3
Airports and flying fields	772	306	466	1.5
Water supply	764	289	475	1.6
Sewerage and sewerage systems	759	314	445	1.4
Housing: Forced warm air heating	756	324	432	1.3
Factories	696	285	411	1.4

Source: BUREAU OF LABOR STATISTICS (communication to the I.L.O.).

[1] Buildings of simple design, street and road work requiring no heavy materials, soil conservation, clearing and drainage, and other projects using little material, such as were undertaken by the Work Projects Administration.

There are great discrepancies between the labour patterns of different countries, and even between those of the same country at different times.[1] Consequently, it is to be doubted that the composition of the public investment programmes of any country should

[1] These discrepancies are discussed in Appendix II below.

be based on the labour patterns of another country. Considering the complications involved in translating one currency into another, in converting man-hours into some working month or week that constitutes full employment, and in estimating the various process effects upon employment, it would hardly be advisable to use the figures of another country even if the other difficulties were not present.[1] Any Government wanting to take the volume of employment created by various projects into account in assigning projects ought to develop its own labour patterns. Moreover, in view of the tendency for these patterns to change rapidly in a single country, they must be kept continually up to date if they are to serve their purpose.

There may be some countries, however, with no records from which to estimate the effects of public investment upon employment. For them, data from other countries might be useful if all countries utilised comparable categories, years, and techniques. The Government of any one country could decide, for example, that with regard to engineering and construction techniques, their country stood between countries A and B, so that results somewhere between those of A and B could be expected. Indeed, this may be an area where the international exchange of information might prove useful. If so, every effort should be made to have uniform categories and techniques adopted.[2]

There is some degree of incompatibility between assigning high priorities to projects with high process effects, and choosing projects that utilise men and materials of the kinds least actively demanded by private enterprise. "Relation" effects will be lowest for projects utilising materials that can be provided from existing stocks; they will be highest for the projects using materials that not only cannot be provided from existing stocks, but for the production of which no excess capacity exists. In the transition period, when pressure on the supplies of many materials may still be severe, the balance of the argument would seem to be clearly in favour of choosing projects that utilise abundant rather than scarce materials, provided that the product effects are comparable, and that both types of project are equally suitable for the required timing policy.

Similarly, one could imagine a situation in which unemployment threatened skilled workers more than unskilled workers. Since both the share of income and the share of an increase in income spent on consumption by unskilled lower-income workers is likely to be higher than for the skilled relatively high-income

[1] See Appendix II below for a discussion of these difficulties.

[2] A critical discussion of the methods utilised in preparing the available American and British figures is presented in Appendix II below.

workers, the multiplier effects would probably be greater for projects using unskilled workers; but it is doubtful whether this fact constitutes an argument for choosing such projects and leaving the skilled workers unemployed until secondary and tertiary effects make themselves felt.

The assignment of priorities in terms of process effects should be used with caution. A reduction of the budget or the deficit needed for full employment by giving top priority to projects with high process effects may have a more unfavourable effect on the distribution of resources, and perhaps on public opinion, than choosing projects in terms of their direct utility to the community. Such being the case, and in view of the difficulties of estimating process effects[1], it would appear that primary importance should be attached to the direct contribution to social welfare, secondary importance to the extent to which the time required for the project fits the expected period of unemployment, and only tertiary importance to the relative effects on income and employment.

Completing the Programme

When a governmental authority has decided how much it can and should spend year by year, and priority ratings have been assigned to the various projects, the completion of the programme is more or less mechanical. The projects should be scheduled in order of importance, in such a way that each year's programme absorbs just the amount of funds to be spent in that year. Care must be taken, however, to make sure that projects that can be most efficiently executed together (streets and sewers) are scheduled for the same period, and that where a project is a necessary prerequisite for another (slum clearance and the construction of a low-cost housing project on the site) it is scheduled earlier. The projects with ratings too low for them to be included in the five to ten-year programme should be listed in a reserve. In this way a reserve of useful work is constantly available to meet any employment emergency. Whenever additional funds are made available, several years' work can be "telescoped" into one.

Telescoping presents its own problems. Priority ratings may have to be revised if work scheduled for several years is to be concentrated into a shorter period. For example, if the sole purpose of telescoping is to meet an unemployment problem of a few months' duration, projects requiring two years or more to complete would be unsuitable from the timing standpoint, and should not be brought forward even if they head the list for the year in which they were originally scheduled. Some high-ranking projects scheduled

[1] Set forth in Appendix III.

for later years may not be available for telescoping, because their initiation depends on the partial or total completion of projects scheduled for earlier years. The working plans of others may be incomplete, because it was thought advisable to postpone detailed planning until the precise nature of the need was clear. The decision to undertake some projects may necessitate the execution of others ranked less high; certain projects must be carried out simultaneously. Speeding up the programme may upset cost estimates, since additional pressure on the supplies of men, materials, and machines may raise their prices; the relative costs of different projects may also be altered, and thus their relative desirability. It may even be decided to take projects from the reserve rather than from the scheduled programme, especially if the latter is an integrated unit. Some projects in the reserve may be *substitutes* for other projects scheduled, and may have been relegated to the reserve solely because of their higher cost. With outside funds available, the more expensive projects may be preferred. It would be well if problems of telescoping were kept in mind when programmes are originally drawn up.[1]

Education for Planners

It will be seen from the above discussion that the process of planning really begins with the training of planners. The need for specially trained personnel for planning has received considerable attention in recent literature.[2] In the Reports of the Canadian Advisory Committee on Reconstruction mentioned above, the necessity of training planners is frequently mentioned. The Australian Commonwealth Housing Commission recommends the establishment of a National School of Physical Planning, to train planners and to advise the Government. The Scott Committee in Great Britain expressed dissatisfaction with the training that architects and professional planners have received in the past, which it considers too narrow for the sort of work that town and country planners should do.[3] L. B. Escritt agrees with the Committee, and suggests a broadening of university curricula in planning, to include agriculture, economics, geology, regional surveying, and "planning", as well as engineering and architecture.[4]

[1] On problems of telescoping, see Benjamin Higgins: "Problems of Planning Public Work", in Seymour E. Harris (ed.): *Postwar Economic Problems* (New York, McGraw Hill, 1943), pp. 200-201.

[2] See, for example: Heydecker and Shatts, *Community Planning* (New York, Regional Planning Association, 1931), Ch. II; Ladislas Segoe, *op. cit.*, pp. 26-28; Frederick Bigger: "Public Education for Planning", in *National Conference on Planning, op. cit.*, p. 11.

[3] Scott Report, *op. cit.*, p. 88.

[4] *Op. cit.*, pp. 57-58.

Professor John Gaus, in his report on *The Education of Planners*[1], treats planning as an inevitable part of the process of government, and stresses the need for planners to be trained in administration and in social sciences, in addition to the traditional fields.

The task of education for planning does not stop with the training of experts. Lay members of planning commissions obviously need education in the problems and principles of planning.[2] Finally, the general public as a whole must grasp the essentials of planning if effective work is to be done. For as Ladislas Segoe has pointed out: "If the majority of people do not understand what is being done well enough to judge whether or not such action is in the public interest, it is likely that the pressure of minority groups will effectively stop or sidetrack it."[3]

Community Planning and Timing

It is evident that the preparation of a good master plan and programme, without which public investment will always be somewhat haphazard, takes a great deal of time and demands expert personnel. For cities with a population of 100,000 or less, it may be possible to develop a master plan and prepare a programme in six to nine months; for larger cities, regions, or nations, at least one year must be allowed unless unusually large staffs are to be employed. Once a master plan and programme have been completed, they still require constant revision in the light of changing conditions; but from the point of view of timing, it is the original surveys, maps, and reports, the establishment of the general objectives, and the scheduling of projects, that present the real problem.

The outline of problems and principles of planning and programming in this chapter is designed to show the need for prompt attention to these essential phases of public investment. Organisations for planning must be set up, legal authority conferred on them, funds appropriated for their functioning, and personnel trained, before effective planning can even begin. Even after all the prerequisites have been obtained, there will be an enormous amount of work to do before governments at all levels and in all countries are ready to put men to work. The time has long since passed when delays in the creation of planning machinery and in the preparation of plans can be contemplated with equanimity.

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[1] John Gaus: *The Education of Planners* (Cambridge, Mass., Harvard University Graduate School of Design, 1943). See also Guy Greer: "City Planning: Battle of the Approach", in *Fortune*, Nov. 1943.

[2] Cf. Frederick Bigger: "Public Education for Planning", *loc. cit.*, pp 10-23.

[3] *Op. cit.*, p. 20.

CHAPTER VIII

ENGINEERING ASPECTS OF TIMING

Once a contract is let, engineering factors are the major determinant of the time pattern of a public works project, unless site acquisition takes longer than the preparation of working drawings and specifications.[1] The engineering aspects of timing have two phases: the time from the award of the contract to the beginning of construction, and the time from the beginning to the end of construction. These two phases might be designated more simply as the "engineering planning phase" and the "construction phase".

The Engineering Planning Phase

A study conducted by the United States National Resources Planning Board (N.R.P.B.) concludes that the most important factor in the lag between the award of contracts and the beginning of construction is the time of year when contracts are awarded.[2] The projects studied were all of a type for which site acquisition presents relatively few problems, and the delays involved in this phase seem to have been the result of technical rather than legal, administrative, or long-range planning factors. The average time required to start construction on contracts let from November to February was 57 days, while for contracts let between March and October the average was only 30 days. For the whole sample, the average was 48 days and the range was from 2 days to 205 days.

There were considerable differences in the effect of the time of year on projects of different types. For buildings, the difference

[1] Engineers and architects seem to have conducted little research into the technical aspects of timing public works, and the amount that can be said on the subject is somewhat limited. J. K. Galbraith and G. G. Johnson included material on timing in their study of *The Economic Effects of the Federal Public Works Expenditures, 1933-38, op. cit.;* the Bureau of Labor Statistics has brought some of the figures contained therein up to date; and the U.S. Public Work Reserve conducted some enquiries into the matter. Otherwise, published material on the subject is virtually non-existent. This chapter is necessarily based largely on these studies, supplemented by discussions with American, Canadian, and European architects and engineers with a special interest in the planning field. It is to be hoped that the interest of technicians in research along these lines will become more pronounced in the future.

[2] J. K. Galbraith and G. G. Johnson, *op. cit.*, p. 84.

between the time-lag for contracts let in the winter and those let in the summer was comparatively small. The same was true of sewers. Highway construction, however, was very much affected by the season when contracts were let. The average time-lag for contracts let in winter was 71 days, as compared with 24 days for contracts let between March and October. The average time-lag for all projects shows slight variations according to project. Buildings took between 38 and 45 days to get under construction, sewers about 2 months, highways about 40 days, bridges about 40 days.

The N.R.P.B. study produced no clear-cut evidence that the size of the project had any significant effect on the time-lag between the award of the contract and the beginning of construction. Some technicians contend, however, that the time required for preparing working plans varies directly with the size of the project. Preparation of the plan must proceed step by step, and the steps must be taken in the proper order if an efficient job is to be done. Elimination of any of these steps, or their undue acceleration, will prove costly in the long run — as hasty planning under the pressure of war needs has occasionally shown. Moreover, the planning job cannot be split up among larger numbers of draughtsmen without quickly resulting in diminishing returns.

It seems necessary to allow at least three to six months for engineering planning. If the project is very big, or if topographical and geological surveys are necessary, it may take still longer to do a good job. Thus the rapid expansion of public investment when needed to alleviate unemployment requires advance preparation of working drawings and specifications.

The Construction Phase

According to the N.R.P.B. study, the time required for construction proper varies considerably according to the size and kind of project. However, as is indicated by table 7, size has much more influence on the construction period than type of project. Projects costing from $10,000 to $25,000 require an average of three to five months for construction, depending on the type of project. The time required is somewhat less than double for projects costing $50,000 to $75,000, but more than double for projects costing between $75,000 and $100,000. Projects involving excavations and simple construction take the least time, and buildings and heavy construction take the longest. Water mains, sewers, and water storage take, on the average, only one half to two thirds as long as buildings and bridges, with streets and highways, waterworks, power plants and sewage disposal plants falling in between. The

TABLE 7. AVERAGE NUMBER OF WEEKS REQUIRED TO COMPLETE VARIOUS TYPES OF NON-FEDERAL PROJECTS OF DIFFERENT SIZES IN THE UNITED STATES[1]

Type of project	Cost of project ($ thousand)							
	10-24 9	25-49.9	50-74.9	75-99.9	100-249.9	250-499.9	500-749.9	750-999.9
Water mains	10.8	16.0	21.6	28.0	33.4	43.6	58.0	67.3
Storm and combined sewers	12.7	16.2	22.8	29.2	39.7	48.4	57.8	69.0
Water storage	13.0	22.0	27.4	28.6	30.4	46.3	57.6	69.4
Water works and sewers	13.8	23.3	28.8	34.2	43.6	57.9	60.4	73.2
Electric distribution and power plants	15.4	21.6	26.0	32.9	40.8	49.7	62.3	74.0
Streets and highways	15.4	18.9	23.0	27.9	33.2	42.0	59.0	69.0
Sanitary sewers	15.6	19.6	26.3	36.0	42.4	52.3	58.4	66.2
Sewage disposal	18.1	25.1	33 8	39.5	48.0	61.3	75.5	87.5
Waterworks	18.3	27.1	32.7	37.6	43.3	56.3	63.3	71.0
Gas plants	18.8	22.6	24.8	27.3	39.2	48.6	60.3	72.0
Power and waterworks	19.0	28.8	37.9	40.0	45.8	63.4	78.2	89.0
Hospitals	19.6	30.5	37.8	43.3	58.8	66.0	75.8	81.9
Bridges	19.6	26.4	35.9	39.1	43.6	60.1	72.4	83.8
Colleges and universities	19.9	29.3	39.8	45.3	49.1	57.6	63.7	75.0
Filtration plants	19.9	24.4	29.4	33.2	42.8	51.2	64.5	76.3
Public buildings	20.4	28.9	36.0	45.3	48.5	64.2	74.4	86.0
Secondary schools	21.0	29.1	33.1	39.0	45.1	61.8	69.8	79.7

Source: J. K. GALBRAITH and G. G. JOHNSON, *op. cit.*, p. 89.

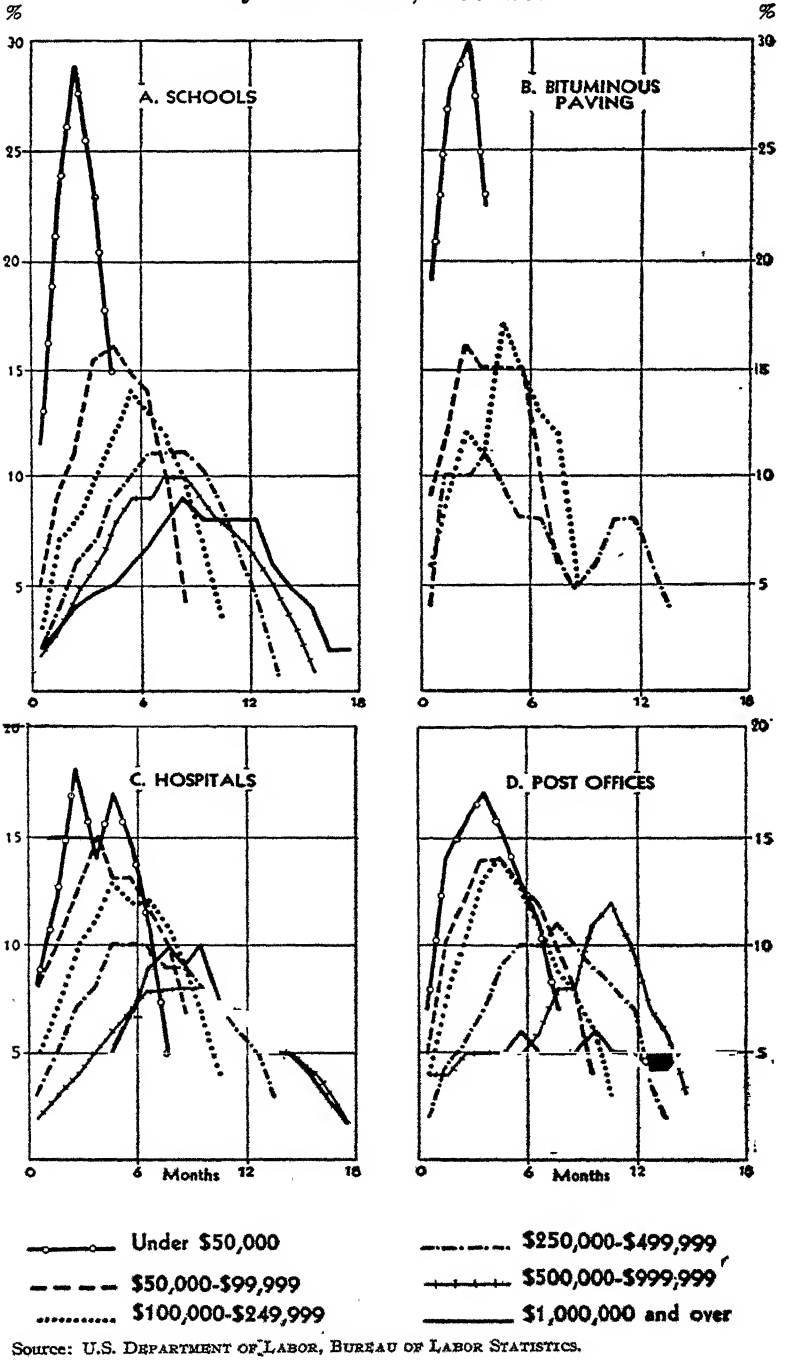
[1] Based on an analysis of the construction duration of 7,893 completed non-Federal projects. Elapsed time is measured from the date construction begins to the date when all work is in place.

time-patterns for various types of project are shown in Chart III A-L.

The reason for the close correlation between construction period and size of project is not far to seek. Indeed, in the case of buildings, it is obvious; the first storey must be at least partly finished before the second can be started, the second must be started before the third, and so forth. In the case of other projects, such as roads, sewers, and river projects, it would be physically possible to do the job in sections, but to do so would result in serious increases in cost. Only extremely large projects can be divided into sections, each with its own equipment and supervisory staff, without creating excess capacity of such equipment and staff. Few private concerns can count on a sufficient flow of large-scale projects to keep busy the number of supervisors, foremen, and machines that would be required to do each job in sections. Only the Government (or a Government-regulated construction monopoly) could afford to operate in this manner.

The size of the project is the most important factor in the interval before peak employment is reached, as well as in the total construction period. For buildings costing up to $25,000, peak

Chart III. United States: Percentage Distribution of Site Man-Hours Worked during each Month of Operation for Selected Types of Projects, by Cost Class, 1936-1939



Source: U.S. Department of Labor, Bureau of Labor Statistics.

Chart III (continued)

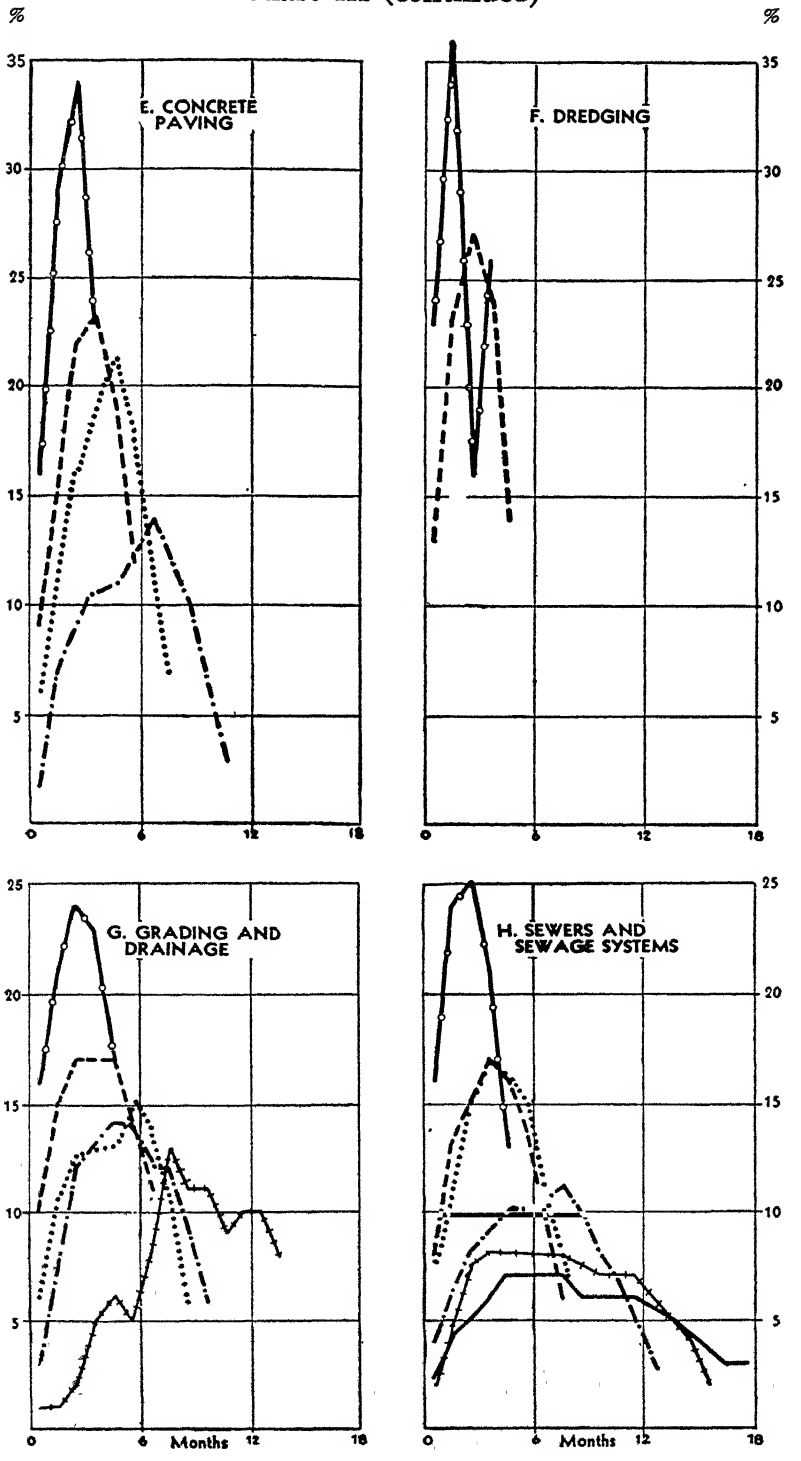
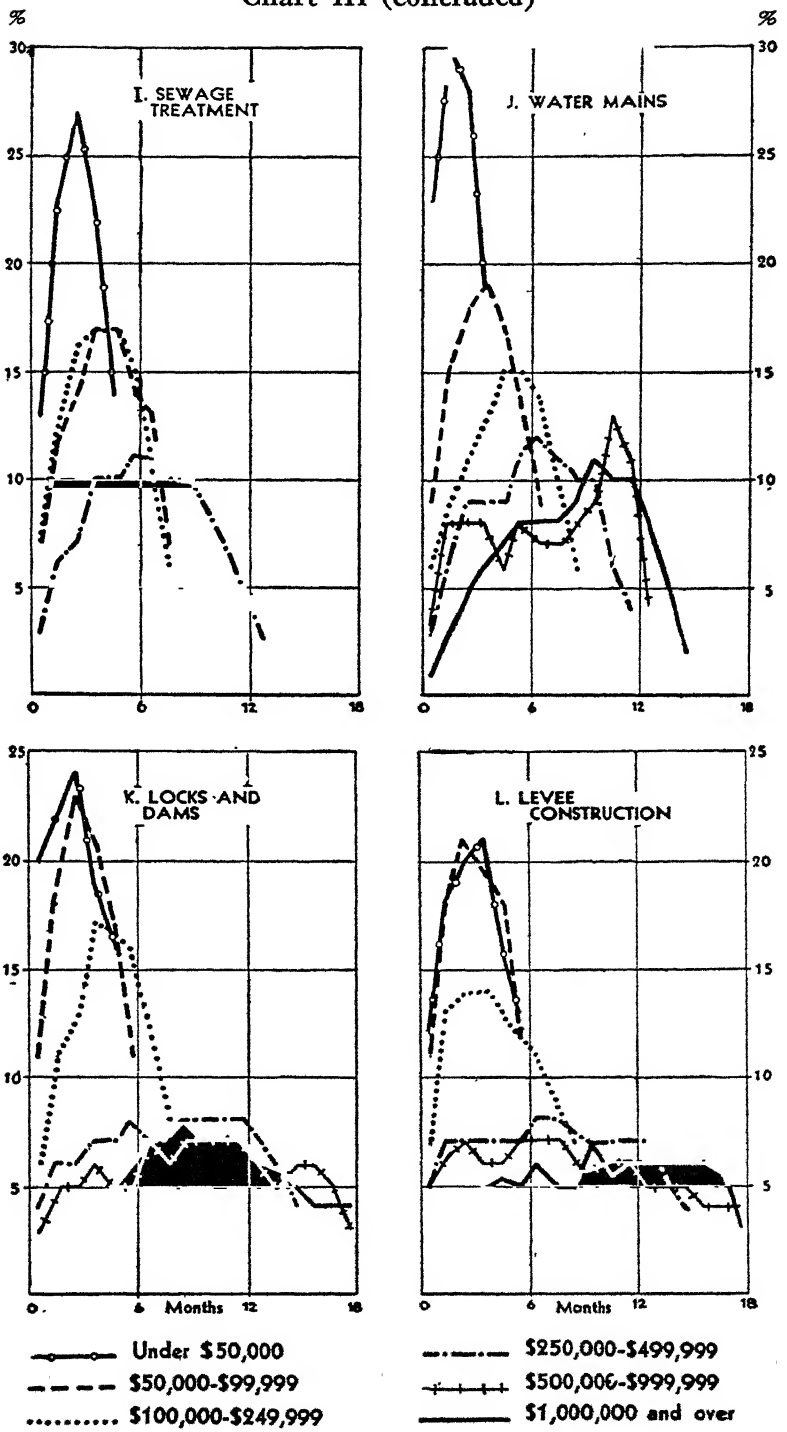


Chart III (concluded)



employment is reached in the second and third months, while for buildings costing between $25,000 and $50,000 peak employment is reached in the third and fourth months. For more expensive projects, the period required to reach peak employment runs as high as ten months. On sewers costing up to $50,000, the employment peak is reached in the second month; on those costing $50,000 to $100,000 the peak is reached in the third month, and on those costing $100,000 to $500,000 it is reached in the fifth month. Other types of project show similar patterns.

The time patterns for different types of project *for the same size and category* show "no well-defined or substantial variations". In general, the peaks of employment for sewage disposal projects "tend to be low, prolonged, and to lag several months behind the others". The peaks for city street and highway construction "tend to be high, short, and to occur in the first two or three months of construction". The patterns for other types of project tend to fall between these two types.

Weather conditions of the region in which the project is located naturally influence the time required for construction, but not as much as might be expected. The experience of the United States Public Works Administration (P.W.A.) shows that it takes an average of one to ten weeks longer to complete construction in the north than it does in the south. For most sizes and types of project the average additional time required in the north was three weeks or less.

The Experience of the U.S. Public Work Reserve

The experience of the P.W.A. was borne out in a general way by the experience of the U.S. Public Work Reserve some years later.[1] On the forms used for proposing State and local projects to be utilised in the reserve, estimates were made of the time required to prepare plans and specifications and to complete the project after construction or operation actually began. Some of these proposals were analysed on a sample basis. The results of this analysis are presented in table 8, and can be summarised statistically as follows:

	Mode[1]	Median[1]
Time in months required for:		
Construction	4.92	6.90
Plans and surveys	1.61	2.39
Total time required	6.41	7.70

[1] The mode is the figure appearing most often in the distribution; the median is the figure with 50 per cent. of the cases above it and 50 per cent. below it.

[1] For a more complete account of the history of this agency, see Benjamin Higgins: "The United States Public Work Reserve", *loc. cit.*

It will be observed that these projects were, on the whole, of relatively short duration. One reason is that the projects submitted to the Public Work Reserve were relatively small, averaging less than $250,000 in cost. The estimates of the time required for plans and surveys before the projects could be launched were probably optimistic, and do not include the time required to overcome legal obstacles, acquire sites, and so forth. However, if the estimates

TABLE 8. PERCENTAGE DISTRIBUTION OF THE ESTIMATED DURATION OF CAPITAL IMPROVEMENTS PROJECTS SUBMITTED TO THE U.S. PUBLIC WORK RESERVE

Duration	Construction	Plans and surveys	Total time required
Less than two weeks	0.3	26.3	0.2
1– 4 months	42.2	66.5	29.4
5– 8 months	26.9	5.0	31.5
9–12 months	18 3	1.8	15.0
13–16 months	1.7	—	10.8
17–20 months	1.8	0.2	2.6
21–24 months	4.6	0.2	1 8
25–28 months	0.4	—	2.7
29–32 months	0.4	—	1.8
33–36 months	1.0	—	1.0
37–40 months	—	—	0.5
41–44 months	—	—	0.2
45–48 months	0.3	—	0.5
More than four years	2.1	—	2.5
	100.0	100.0	100.0

are accurate and can be safely generalised, they mean that the normal public investment programme of local governments will contain a large share of projects short enough in duration to fit almost any conceivable period of general unemployment. This fact is of considerable importance, since it means that the contraction phase of timing can virtually always be accomplished without abandoning particular projects before completion, and yet without competing unduly for labour and resources with private employers. All that is necessary is to allow the scale of the total programme to run off, by not replacing individual projects as they are completed.

One qualification must be made to this generalisation. A period of general unemployment of less than six months is unlikely; but the turnover of unemployed within that period may be quite rapid, so that few individuals are without work in the private sector of the economy for more than two or three months. Even this situation would impose no serious barriers to making use of public investment to meet it, provided the men losing jobs in the private sector were in the same region and had roughly the same skills as

those who were leaving public investment projects for private employment. However, if unemployment in one part of the country or in one trade is followed by unemployment in a totally different area or occupation, and if few individual workers are jobless for more than two or three months even though unemployment as such may be quite heavy for several months, it may be extremely difficult to devise a programme of useful projects to fit the unemployment picture. In case of partial unemployment of short duration, it may be better to rely on unemployment benefits and similar instruments for the maintenance of income.

The Timing of Individual Projects

Some town planners have considered varying the rate of construction on individual projects in accordance with the employment situation. The extent to which the rate of construction can be varied without significant increases in cost is not altogether clear. Proponents of a policy of timing individual projects believe there is a high degree of flexibility in technique and speed of construction, which permits 50-100 per cent. variations in the construction period without serious loss of efficiency. The marked difference in on-site employment and the small difference in cost as between P.W.A. and W.P.A. projects in the United States (discussed in Chapter IX) provides some evidence of the variability of construction techniques. In the United States, builders tend to use materials lavishly and skilled craftsmen sparingly, while in Europe the reverse is true, a difference in building practice that is reflected in the fact that the ratio of off-site to on-site employment is higher on British construction projects than on American.[1] These differences might also be considered to support the case for varying the rate of employment on particular projects to fit the general economic situation.

Other technicians, however, contend that any effort to vary the rate of construction is likely to result in large increases in cost. There are several reasons why this might be the case. First, extension of the construction period could lead to financial difficulties. Not only would total interest costs rise, but if loans had been obtained for (say) six months in the hope that the project would begin yielding returns at that stage, and the construction period were extended, difficulty might be encountered in meeting financial obligations. Second, extension of the construction period would result in storage problems for building materials. Manufacturers do not like to store materials that have already been sold, and storing them on the site would often involve either increased costs

[1] Cf. Ch. VII above, and Appendix II below.

or deterioration of the materials. There is also a possibility that the structure itself might deteriorate if its completion were too long delayed. Third, equipment must be used close to capacity if it is not to be unduly expensive. If a project is small enough to require little equipment on the site (such as an individual house) or large enough to utilise equipment fully even if the rate of construction is slowed down, this problem does not arise. However, the extent of excess capacity in heavy equipment is so great that, if such equipment is used at all, it can usually handle large projects working at optimum speed. Unless a project is big enough to allow of duplicate equipment, it cannot be economically completed in sections, even if it is physically possible to do so. Fourth, slowing down operations tends to increase the cost of superintendence. Fifth, on the acceleration side, even with considerable unemployment of some types of labour, the supply of materials may be a limiting factor. Wartime conditions with regard to material supplies may continue for some time after the war in some countries, and an attempt to speed up the construction of particular projects may be frustrated by inability to speed the delivery of materials. Even if materials can be obtained, there is a danger that increasing costs in the materials industries would result in a rise of building materials prices. There is a particular danger in not allowing lumber sufficient time to dry, in an effort to speed construction, as some unfortunate wartime experience has demonstrated. Finally, efforts to hasten construction may result in slipshod and imperfect work, which may cause delays or even disasters in the long run.

There are, of course, exceptions to this rule. Large-scale national development projects — soil conservation, roads, seaways — can be broken down into a number of individual jobs which need not be completed all at once. A highway or seaway may be of limited usefulness if left half-finished, but it need not deteriorate before work is started again. On the other hand, where such projects are worth doing at all, it often happens that the need is pressing, and accordingly it may be undesirable to suspend work on them when the private demand for labour increases.

The techniques utilised by different firms, however, do vary according to the supply of skilled workers available, the quantity and quality of the equipment they own, the training of the managing personnel, and the customary methods of procedure. Thus, one firm might do a certain job most efficiently in three months, while another might do it efficiently in six months. Accordingly, some flexibility in the time taken for particular projects could be obtained by choosing for each project the firm whose customary techniques were most suited for the expected period of unemploy-

ment, provided always that the planning agency could predict the length of the unemployment period with reasonable accuracy — which few planning agencies can do. For any one firm to alter the length of time taken for specific projects, however, would tend to increase costs, for the reasons itemised above.

Popular reaction to changes in technique and rate of construction is also a factor to be considered. It is argued below (Chapter IX) that some of the objections to the Work Projects Administration in the United States might be traced to the simple fact that the labour-intensive techniques used on street and road projects seemed more wasteful than they actually were. It is quite possible that the sudden adoption of American techniques for European public works might strike European citizens as a prodigal waste of materials and equipment. And indeed, if the organisation and personnel of the construction industries involved were not adapted to the new techniques, they might in fact prove wasteful. Moreover, delaying some types of projects — streets, roads, subways — would make them public nuisances, and the annoyance of the populace might easily turn against the whole policy of timing public investment.

On the whole, it seems advisable to carry out public works projects at the rate and with the techniques most efficient for the country and firm concerned. The planning agency may want to weight its programme more heavily with projects that can be finished within the expected period of unemployment; but physical timing should be obtained by varying the size of the total programme in each period, rather than by varying the speed of execution of particular projects.

The Ranking of Projects by Time Patterns

Ranking various types of project in terms of the time required to carry them out presents an index-construction problem. What weights should be assigned to various size-groups? Should greatest importance be attached to the number of months required to reach peak employment, to the number of months before 50 per cent. of the total man-hours have been utilised, to the time required to complete the project, or to the configuration of the whole time-pattern? How much weight should be attached to the speed with which secondary effects take place? Obviously there is no simple answer, and it is doubtful whether it would be worth while attempting to construct an index. However, there are two matters of greater concern than any others in choosing projects to fit a timing policy. In the expansion phase, the question is: "How quickly can men be put to work without loss of efficiency?" In

the contraction phase, the question is: "How quickly can the job be finished without loss of efficiency?"

A rule-of-thumb answer to the first question might be obtained by examining the proportion of total man-hours worked in (say) the first two months, on a project of "typical" size. Some attention might also be given to the number of months required to reach peak employment. In terms of these rough-and-ready criteria, projects might be ranked as follows, in order of the speed with which they provide employment:

Water mains;
Bituminous paving;
Grading and drainage;
Dredging;
Flying fields;
Levee construction;
Sewers and sewage systems;
Concrete paving;
Locks and dams;
Post offices and similar buildings;
Hospitals;
Schools.

In answering the second question, the total time-lapse would not be a good criterion, because some projects tend to take several months for finishing touches that require only insignificant amounts of labour (see chart III A-L). A better criterion might be the number of months required to absorb (say) 90 per cent. of the total man-hours utilised. In terms of this criterion, projects would rank in the following order, with the projects requiring least time at the top:

Water mains;
Dredging;
Grading and drainage;
Flying fields;
Concrete paving;
Bituminous paving;
Sewers and sewage systems;
Locks and dams;
Levee construction;
Post offices and similar buildings;
Hospitals;
Schools.

Apart from public buildings, which seem to be slow in starting and long in finishing, there is no very clear correlation between the speed of absorbing men and the speed of releasing them. If pro-

jects were to be chosen according to their time-patterns, therefore, the problem of determining the relative importance of rapid expansion and of rapid contraction would arise in some cases. There seems little doubt that in such cases the speed of expansion should be given more weight. The risks involved in delaying the absorption of unemployment are much greater than the risks taken in delaying the release of workers to private enterprise; and since the range of time required to complete 90 per cent. of the work is only from four to nine months, it appears that projects of "typical" size can be fitted into almost any probable interval of non-seasonal unemployment, regardless of the type of project.

It is important to note, however, that the differences in time-pattern arise mainly from differences in the cost of typical projects of various types, as a glance at the charts will show. For projects of equal cost, the time-patterns are much the same for any type of project. In view of the statistical complications involved in making such comparisons, and of the lack of clearly significant differences between types of project of equal cost, it seems doubtful whether such comparisons should be accorded much weight in determining the composition of a public investment programme. The conclusion that emerges with greatest clarity from American experience (which alone is available) is that flexibility in a public investment programme requires the advance preparation of a reserve of projects costing less than $100,000 apiece. It would appear that the assignment of priorities should be made mainly in terms of direct contribution to welfare and of cost, high ratings being accorded to useful but relatively inexpensive projects.

Conclusion

Judging from the information available, the engineering aspects of timing are the least troublesome of all. Assuming that long-run planning, programming, legislation, financing, and site acquisition are all taken care of when the engineer takes over a project, only some three to six months are needed to prepare working plans and specifications, depending on the size of the project, and then men can be put to work. Most projects can be finished within six months to a year after construction begins, and will accordingly fit into almost any interval of unemployment that is likely to arise.

PART IV

THE LESSONS OF THE 'THIRTIES

CHAPTER IX

THE UNITED STATES

In most countries, public investment policy during the inter-war period ran completely counter to the principles laid down in the Public Works (National Planning) Recommendation, 1937. Few central Governments, and almost no local governments, increased their public works expenditures or their deficits during 1921-22, or during the downswing of 1929-1932. When central Governments did make an effort to check deflation or to stimulate recovery by public investment, their efforts were usually counteracted by reduced outlays at the intermediate and local levels. This failure to adopt compensatory spending policies, and the consequences of that failure, are in themselves instructive. In addition, the experience gained in those instances where an anti-depression public work policy was introduced provides a guide to what to do, and what not to do, when next the policy is applied.

The Over-all Picture

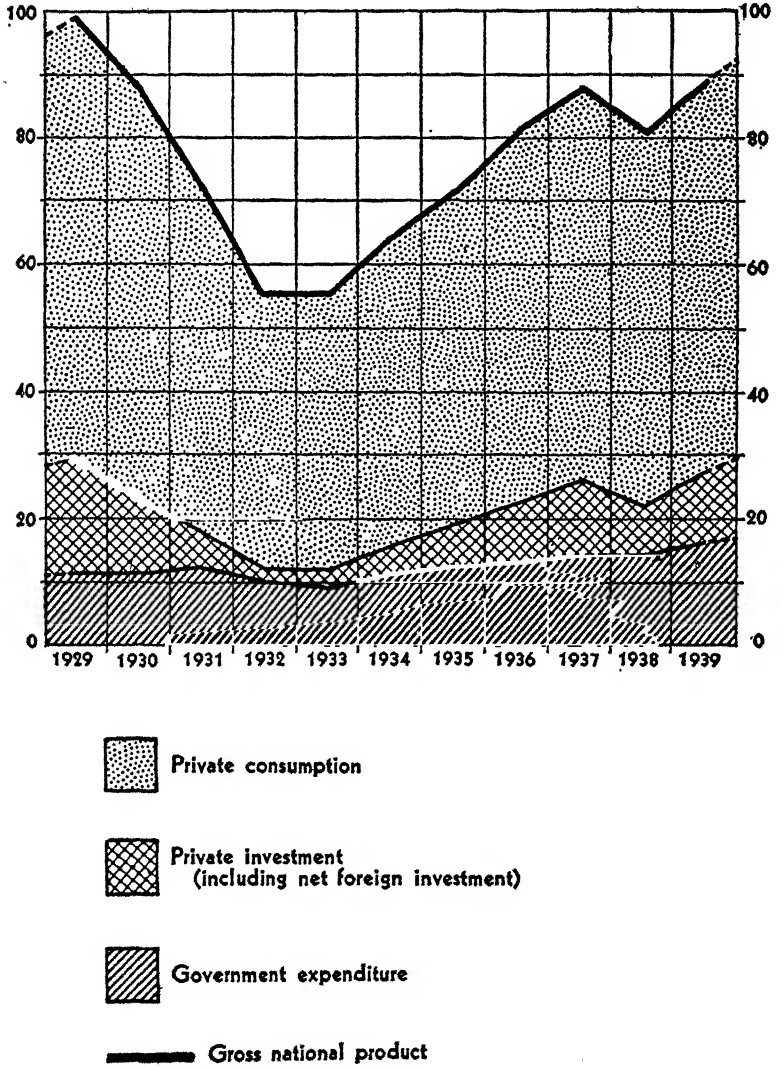
The American case is among the most interesting and instructive. In the first place, the fluctuations in income and employment were extremely violent in the United States, as may be seen from chart IV. Private investment in particular varied enormously from boom to depression. In the second place, the United States was not only one of the countries that tried, at some stage of the depression that began in 1929, to combat unemployment by public investment, but one that encountered virtually all the difficulties of expanding public employment rapidly without adequate preparation. The depression of the 1930's hit the United States at a time when the Government was in no way committed to a policy of combating unemployment by public investment, and accordingly, when no plans for expanding public investment were available at any governmental level.[1] In the third place, employment policy in

[1] There had been discussion of the relationship of public works to economic fluctuations in both professional and governmental circles for some time. The President's Conference on Unemployment, under Secretary of Commerce Hoover, had commented favourably upon the proposal to use Federal public works as a means of relieving unemployment as early as 1921, and in 1928 a Bill for advance planning of Federal public works had been introduced by Senator Wagner. In

(*Footnote continued overleaf*

Chart IV. United States: Fluctuations in Gross National Income and Major Components, 1929-1939

(In $1,000 million)



Source: NATIONAL PLANNING ASSOCIATION.

his policy statement of Oct. 1930, Mr. Hoover, then President of the United States, listed public works as one of the means that might be used to solve the unemployment problem. A month later, Mr. Arthur Woods, Chairman of the President's Employment Committee, proposed a public investment programme of $2,000 million. The Employment Stabilization Act of 1931 provided for the appointment of a Federal Employment Stabilization Board, to advise the President on the timing of public investment, among other things. However, it was not until July 1932, when the Emergency Relief and Construction Act was passed, that the first concrete step towards the use of public investment to defeat depression was taken.

the United States, perhaps more than in any other single country, affects economic conditions of the world as a whole.

In fact, the Federal programme of public investment was small relative to the needs, and its effects were largely offset by decreased State and local expenditures. As indicated in table 9, the net contribution of Federal expenditures to national income never reached 7 per cent. of the total at any time during the 'thirties, and during the worst depression years was less than 5 per cent. of the total. The *increase* in Federal additions to national income was highest in 1931, but it was only a fraction of the drop in private spending, as is demonstrated by the fall in national income during that year.

TABLE 9. INDICES OF FEDERAL, STATE AND LOCAL FISCAL POLICY IN THE UNITED STATES

(*$ million*)

Fiscal year[1]	Net income-increasing expenditures			Sales taxes		Additions to municipal debt
	Federal[1]	State and local	Total	Federal	State	
1927–28	−77	810	733	1,054	*	959
1928–29	−232	928	696	1,065	*	977
1929–30	388	1,221	1,609	1,060	*	999
1930–31	2,419	1,291	3,710	839	538	750
1931–32	1,797	676	2,473	739	560	323
1932–33	1,809	−705	1,104	961	550	−26
1933–34	3,460	−1,165	2,295	1,404	806	309
1934–35	3,568	−657	2,911	1,573	964	343
1935–36	4,374	−450	3,924	1,794	1,229	331
1936–37	1,114	−244	870	2,104	1,406	108
1937–38	2,225	−321	1,904	1,935	1,508	273

Sources: Net income-increasing expenditures: Lauchlin CURRIE, Testimony before the TEMPORARY NATIONAL ECONOMIC COMMITTEE: *Hearings* (Washington, May 1939), Part 9, p. 4011, as revised by Haskell WALD. Sales taxes: *Annual Report of the Secretary of the Treasury* (Washington, 1941); TAX INSTITUTE: *Tax Yields, 1940* (Philadelphia, 1941), p. 44. Additions to municipal debt: *State and Municipal Compendium*, Part I, 30 June 1942, p. 4.

* Not available. [1] The Federal fiscal year ends on 30 June, that of most State and local authorities on 31 Dec.

Total expenditures of the Federal Government increased fairly steadily throughout the whole decade. In the first fiscal year of depression, the budget surplus was maintained, thus adding to the deflationary forces. In the fiscal year 1931, total expenditures declined, but the deficit increased. From fiscal years 1932 to 1936, both expenditures and deficits increased. They were reduced in the next three years — prematurely, it would seem, since a recession set in during 1937 and 1938, and unemployment was still very high.

However, Federal budget policy was more closely counter-

cyclical than any other, and no doubt the efforts of the Federal Government to increase employment would have been more effective had they not been frustrated by reverse policies of State and local governments. The net addition to the national income by those governments fell off rapidly after 1931, and in the worst years of depression was actually negative. State and local tax policy also had a depressing effect during the 'thirties. Sales taxes bear particularly heavily on consumer spending, and thus on employment. Whereas Federal sales tax collections fell off during the downswing, State sales taxes increased steadily throughout the whole decade.

The State governments increased their outlays up to 1931, contracted them over the next two years and then increased them again. During the downswing, their deficits increased, affording some slight check to deflation. As the Federal spending policy got under way, however, the States used the increased grants-in-aid to reduce debt, thus nullifying much of the effect of the Federal policy.

Worst of all was the fiscal policy of the local governments. Their expenditures were cut from 1929 to 1935, their deficits were reduced during the downswing, and in 1933, the year in which the highest level of unemployment was reached, municipal debt was actually reduced. From 1933 onwards, the municipalities, like the States, took advantage of Federal spending to reduce their debts.

The net result was that total expenditures for goods and services by all governments were almost constant during the first two years of depression, dipped somewhat in 1932 and 1933, and rose steadily throughout the rest of the decade (see chart IV). Meanwhile, gross national product dropped to 55 per cent. of its 1929 peak, consumer spending contracted by 40 per cent., and gross private investment dwindled to 12.5 per cent. of its 1929 level, before recovery set in. Unemployment reached the unprecedented figure of 15 million, nearly one third of the working force, and remained at a high level throughout the whole decade.

Even in the field of construction, where public investment was most heavily concentrated, reductions in State and local expenditures prevented the Federal outlays from stabilising activity for the industry as a whole. As illustrated in table 10, at no time during the downswing did public construction expenditures increase enough to offset the drop in private construction expenditures. After 1933, with the introduction of work relief, Federal construction activity did increase significantly, but it never amounted to one third of average private activity in the late 'twenties, and in

TABLE 10. NEW CONSTRUCTION EXPENDITURES IN THE UNITED STATES, 1925-1938

(*$ million*)

Year	Total	Private	Public
1925–1929 (average)	10,462	8,180	2,282
1930	8,207	5,430	2,777
1931	6,225	3,648	2,577
1932	3,523	1,729	1,794
1933	2,416	1,200	1,216
1934	2,965	1,479	1,486
1935	3,357	1,908	1,449
1936	4,904	2,730	2,174
1937	5,545	3,507	2,038
1938	5,248	3,162	2,086

Source: BUREAU OF LABOR STATISTICS: *Postwar Capacity and Characteristics of the Construction Industry* (Washington, D.C., 1945), p. 4.

fact, it was largely nullified by reduced State and local activity.[1]

Thus the United States spending programme of the 'thirties does not constitute an adequate test of the efficacy of public investment in raising income and employment. National income did rise nearly 80 per cent. between 1932 and 1937, when public spending tapered off; but there were still several millions of unemployed at that time. It is worth noting, however, that when truly large-scale public investment was brought on by the war, unemployment quickly disappeared, and the national income more than doubled with a less than 40 per cent. rise in prices.

THE PUBLIC WORKS PROGRAMME

The public works programme after 1932 went through three stages. First, under the Hoover Administration, an effort was made to stimulate public investment by self-liquidating loans through the Reconstruction Finance Corporation. Next, loans and grants to States and localities for projects carried out by private contract were tried. Finally, the Government resorted to work relief on a force-account basis.

[1] The National Resources Planning Board has summarised the situation as follows:

> In the central years 1931 to 1933, public works activity did not operate as a counterbalance to the drastic decline in private construction, but on the contrary itself declined by 47 per cent. from the pre-depression level. This decline was entirely due to the rapid contraction of State and local expenditures . . . Finally, despite the unprecedented level of Federal expenditure for construction during recent years, total construction expenditures (including work relief) in the best year did not reach even 60 per cent. of the pre-depression volume . . . If work relief is excluded, the deficiency in State and local expenditures more than offsets the Federal outlays. (J. K. GALBRAITH and G. G. JOHNSON, *op. cit.*, p. 20.)

The Reconstruction Finance Corporation

The Reconstruction Finance Corporation (R.F.C.) was the first Federal agency to be assigned the task of increasing public works expenditures in the country as a whole. Under Title I of the Emergency Relief and Construction Act of July 1932, the R.F.C. was authorised to "make available" to the States and Territories, in the form of advances at 3 per cent., $300 million for relief and work relief.[1] Title II of the Act authorised self-liquidating loans to assist States and localities in resuming at least part of their normal public work activity. It provided $1,500 million for loans of ten-year maturity, at an interest rate of 4 or 5 per cent.

The restriction of the loans to self-liquidating projects proved to be a serious barrier to the utilisation of these funds. By the close of 1935, only $200 million had been advanced to State and local governments. Considerable difficulty was experienced in finding projects that qualified under the self-liquidation clause.[2] Even where State and local governments could propose acceptable projects, they were often prevented from utilising R.F.C. loans by their own statutory debt limitations. This part of the Act brought no significant increase in public investment. It was important mainly in its introduction of direct relationships between the central and local governments.[3]

Title III of the Act empowered the R.F.C. to provide $322 million for expenditure on Federal public works. Of this amount, $120 million were to be used for highways, and were to be allotted in the form of temporary advances to be repaid in ten years. The sum was used almost entirely for projects that had already been authorised, and so resulted in no net increase in Federal public works expenditures.

The chief lessons to be derived from the Act's failure to bring about an increase in total public investment seem to be two: first, the limitation of Federal aid to self-liquidating projects is a serious barrier to expansion of public work activity; and second, if Federal aid to State and local governments is to be effective at times when these are in weak financial condition, it cannot be limited to loans, but must include outright grants as well.[4]

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[1] Most of this fund was disbursed between Jan. and June of 1933. Only $80 million were allocated before that time, and only $1.4 million afterwards.

[2] Cf. *Hearings before the Senate Committee of Banking and Currency*, S. 5336, 72nd Congress, Second Session, 2-3 Feb. 1933.

[3] "It would be hard to over-estimate the importance . . . of this innovation . . . — the establishment of direct relationships between the national Government and the political subdivisions of States." (J. Kerwin WILLIAMS: *Grants-in-Aid under the Public Works Administration*, New York, Columbia University Press, 1939, p. 30.)

[4] Cf. Donald WATSON: "The Reconstruction Finance Corporation", in *Municipal Year Book*, 1937, p. 375.

The Public Works Administration

Title II of the National Industrial Recovery Act of 1933 established a Federal Emergency Administration of Public Works, more commonly known as the Public Works Administration, or P.W.A. The P.W.A. had powers to make allotments to Federal construction agencies, to make loans to States and localities, and also to make outright grants to States and localities. It was initially authorised to spend $3,300 million, but part of this sum was transferred to other agencies, and additional funds were made available by the Emergency Relief Appropriations Act of 1935, the Public Works Extension Act of 1937, and the Public Works Administration Appropriation Act of 1938. The actual expenditures of the Public Works Administration during the pre-war years are shown in table 11.

TABLE 11. ESTIMATED TOTAL EXPENDITURES FOR VARIOUS TYPES OF P.W.A. FEDERAL AND NON-FEDERAL CONSTRUCTION PROJECTS (INCLUDING FUNDS FROM NON-FEDERAL SOURCES) DURING THE 5-YEAR PERIOD 1933-1938

Project type	Federal projects		Non-Federal projects	
	Amount	Percentage of total	Amount	Percentage of total
	$ million		$ million	
Streets and roads	464	27.4	232	9.0
Sewer and water systems	6	0.4	545	21.1
Vessels	266	15.7	—	—
Non-residential building	212	12.5	1,059	41.1
Residential building	104	6.1	12	0.5
Flood control, water power, and reclamation	234	13.8	89	3.5
Electric power excluding water power	5	0.3	28	1.1
All others	402	23.8	613	23.7
Total	1,693	100.0	2,578	100.0

Source: J. K. GALBRAITH and G. G. JOHNSON, *op. cit.*, p. 12.

The initiation and construction of projects was left to the Federal agencies and the State and local governments concerned. The role of the P.W.A. was largely limited to reviewing applications and making loans or grants. Under the initial Act, the Federal grants were limited to 30 per cent. of "labour-and-materials cost". In a revision of 1935, the permissible grant was raised to 45 per cent. of "total development cost", an increase of about 100 per cent. Federal loans could be made for 55 per cent. of the remainder, but, in making grants, the P.W.A. expressed a preference for pro-

jects for which the balance of needed funds would be obtained from other sources.

Like the Emergency Relief and Construction Act, Title II of the National Industrial Recovery Act stipulated that before approving any project the President must consider "whether action is in process or in good faith assured therein reasonably designed to bring the ordinary current expenditures thereof within the prudently estimated revenues thereof". While this budget-balancing clause was somewhat more liberal than the self-liquidation requirement under the preceding Act, it proved a serious obstacle to the speedy development of a large-scale public investment programme on the State and local level.

Work was done on a private contract basis wherever possible. It was felt that the contract basis conformed best with the legislative requirement that private enterprise should be used to a maximum extent, and that partisan politics could best be avoided by using the contract method. However, the use of private contracts resulted in considerable delay. The complex procedure for the submission and approval of projects also constituted a barrier to the rapid absorption of unemployment.

The results of the Public Works Administration programme were not very satisfactory. In the first place, the volume of work undertaken by both Federal and non-Federal agencies, averaging less than $900 million per year for five years, was small in comparison with the average expenditures of $2,300 million per year on public construction during the period 1925 to 1929, and very small in comparison with the $8,300 million of annual private construction in that period. In the second place, as mentioned above, the projects were slow in getting under way. The inescapable conclusion to be drawn from P.W.A. experience is that if public works undertaken by private contract are to be used to meet a temporary unemployment problem, all legal and financial barriers to the initiation of projects must be eliminated in advance, plans and specifications must be drawn up, sites acquired, and, perhaps, even contracts let. Otherwise, unemployment may persist long enough to precipitate a cumulative downswing ending in deep depression.

The history of the P.W.A. also reinforces the conclusions reached with regard to the Reconstruction Finance Corporation's efforts in the field of public investment. If a large volume of State and local public works is to be generated quickly, loans to States and localities may prove inadequate, and outright grants are more effective; and the attachment of any proviso with regard to the self-liquidation or budget-balancing of projects tends to defeat the

main purpose of a public investment programme undertaken to maintain full employment.

The Civil Works Administration

The Civil Works Administration was established by an Executive Order of 9 November 1933, under the authority of the National Industrial Recovery Act. There were two main reasons for the creation of this new agency. First, the recovery which had begun in the spring of 1933 had turned into a relapse in the fall of the year, and it was feared that still deeper depression might develop. Second, it was felt that the unemployment situation could not be met with sufficient speed and effectiveness by the Public Works Administration, because of the delays arising out of legal, financial, and other complications inherent in a public works programme on a private contract basis.

The purpose of the C.W.A. was to absorb 4 million men into employment, of whom half were to be taken from relief rolls. In contrast to the small volume of work relief then being provided by the Federal Emergency Relief Administration through "make-work" projects, the C.W.A. was to provide mass employment on projects of a useful nature. Workers were to be paid at P.W.A. rates, but not less than the minimum rates prevailing in the locality where the projects were undertaken. Finally, the programme was not to consist of normal projects that would have been undertaken by the State or local governments in any case. Under the initial Order, projects were to be limited to construction or planning for construction, but later a Civil Works Service Programme was added to provide employment for white-collar workers. No certificate of need was required, and no limit was imposed on total earnings. However, the working week was limited to 30 hours. All projects were to be carried out on public property, and by the force-account (direct labour) technique rather than by contract.

The C.W.A. operated through grants to State or local governments. However, its administration was entirely Federal, the agency organising its own staff for operation in the field.

The sources and uses of C.W.A. funds are shown in table 12, from which it is apparent that the great bulk of C.W.A. expenditures went into on-site wages and salaries.

About 75 per cent. of the workers employed by the C.W.A. were engaged on State and local projects, and only 25 per cent. on Federal projects. The C.W.A. increased the incomes of relief families considerably. In the peak month of relief payments by the Federal Emergency Relief Administration (November 1933) the average worker's cash relief per family was $4.25 per week. In

the peak month of C.W.A. activities (January 1934) the average earnings per family were $15.04 per week.

TABLE 12. DISTRIBUTION OF CIVIL WORKS ADMINISTRATION EXPENDITURE

Source	Amount $ million	Expenditure	Amount $ million	Per cent. of total expenditure
Public Works Administration	400	Wages and salaries	740	79.3
Federal Emergency Relief Administration	123	Teams, trucks and equipment	63	6.8
Act of 15 February 1934	345	Materials	114	12.4
Local funds	84	Other	14	1.5
State funds	6			
		Total expenditure	930	100.0
		Unexpended balance	28	
Total	958	Total	958	

Source: Compiled from figures in Corrington GILL: "The Civil Works Administration", in *Municipal Year Book*, 1937, p. 419.

The C.W.A's remarkable record in putting men to work within ten days after the agency was created, and acquiring a payroll of 814,000 workers by the first pay-day, has been referred to in Chapter VI. The programme reached its peak within three months, with over 4 million men employed. The volume and distribution of employment on the C.W.A. projects is shown in table 13.

TABLE 13. VOLUME AND DISTRIBUTION OF EMPLOYMENT ON C.W.A. PROJECTS IN CONTINENTAL U.S.A.

(*Thousands*)

Date	Total	C.W.A. projects				Civil Works Service projects
		Skilled and unskilled	Drivers of teams and trucks	Professional	Clerical and administrative	
1933						
23 Nov.[1]	814.5	723.1	19.0	8.3	8.5	55.6
30 Nov.	1,531.1	1,392.5	65.7	17.1	18.3	37.4
28 Dec.	3,632.1	3,205.9	173.9	58.2	53.2	141.0
1934						
25 Jan.	4,164.4	3,535.0	215.1	128.7	74.0	211.6
22 Feb.	3,426.7	2,924.2	178.2	113.1	85.2	125.9
29 Mar.	1,964.0	1,616.5	86.1	183.5	77.8	0.2
26 Apr.	59.8	17.9	0.6	18.9	22.3	—
31 May	8.9	0.1	0.02	0.1	8.6	—
28 June	5.9	0.03	0.01	0.1	5.8	—
14 July	3.3	0.01	0.003	0.003	3.3	—

Source: WORK PROJECTS ADMINISTRATION: *Analysis of Civil Works Program Statistics* (Washington, Government Printing Office, 1939), p. 17.

[1] First pay-day.

The programme was also liquidated with remarkable speed. The agency was set up as an emergency organisation, and it was originally intended to suspend its activities in the middle of February 1934. However, it was kept in operation by a supplementary grant until 31 March 1934. After that date, as table 13 shows, employment fell quickly to insignificant levels. While some of the projects were carried on by the Federal Emergency Relief Administration, and a few airports were not finished until early in 1935, most of the projects were completed a few months after work on them was initiated.

The Federal Emergency Relief Administration

From 1 April 1934 to 1 July 1935, the major part of American public work expenditures were made by the Federal Emergency Relief Administration's work relief programme. This programme was undertaken to continue the functions of the Civil Works Administration, and the top administration was virtually identical with that of the C.W.A. The F.E.R.A. made grants to States, and through the States to localities, for work relief projects. It had been established under the Federal Emergency Relief Act of 1933, but prior to April 1934 its activities had been almost entirely limited to direct relief. The F.E.R.A. ultimately took over much of the C.W.A., but the total employment provided never reached as large a scale as that of the C.W.A.

The procedure for processing projects was similar to that of the C.W.A. and provided a model for the Works Progress Administration that succeeded the F.E.R.A. Each project had a sponsor, which might be any State or local governmental agency. That sponsor made application for funds, through the local office of the F.E.R.A. After approval at the local level, the application was sent to the State engineer for review. Projects were submitted to Washington for information purposes only, and after final approval had been made by the State administrator.

The F.E.R.A. had a somewhat easier job than the C.W.A. with regard to the rapid provision of employment, since it was in a position to take over personnel from C.W.A. projects. Nevertheless, the speed with which the F.E.R.A. payrolls were built up provides further proof of the efficiency of the force-account method for this purpose. Over one million men were employed in the first month, and by the second month the employment had risen to 1.4 million. Peak employment was reached in 1935, at 2.5 million.

Employment on F.E.R.A. projects is shown in table 14.

TABLE 14. EMPLOYMENT ON THE F.E.R.A. WORK PROGRAMME, APRIL 1934 - JULY 1935
(Thousands)

	1934	1935
January	—	2,446
February	—	2,434
March	—	2,370
April	1,092	2,196
May	1,361	2,021
June	1,504	1,929
July	1,725	—
August	1,923	—
September	1,951	—
October	2,000	—
November	2,164	—
December	2,303	—

Source: WORK PROJECTS ADMINISTRATION: *Federal Work, Security and Relief Programs*, Research Monographs No. XXIV (Washington, D.C., Government Printing Office, 1941), p. 133.

The Work Projects Administration

The Work Projects Administration was established by an Executive Order of May 1935, and began operations in August of that year.[1] The W.P.A. took over most of the top administration of the Federal Emergency Relief Administration and the Civil Works Administration, and its whole organisation and procedure was closely modelled after that of the C.W.A. Like the C.W.A., the W.P.A. had its own offices in every State and made direct contact with local governments. This system was considered more efficient than making grants to the States for reallocation to the municipal governments, as was done under the F.E.R.A. While the F.E.R.A. could issue regulations and exert some supervision over its projects, it could exert final control only by refusing funds to any State that failed to maintain standards. In face of the intense need for employment, this power could not be used effectively. The direct relationship with local governments also made it possible to sidetrack indifference or opposition to Federal work relief on the part of the State administrations and to avoid legal and financial problems arising at the State level.

As under the C.W.A., each project had a sponsor, usually a State or local governmental agency. Applications for funds were sent directly to the State administration of the W.P.A., and upon approval were forwarded to the central office for review. Final approval of projects in the central office rested with an Advisory Committee on Allotments, with the Administrator of W.P.A. as Chairman, and with representatives from interested departments of the Federal Government and from a few private organisations.

[1] The original title of the agency was the Works Progress Administration but its name was changed in July 1939, when it became part of the newly established Federal Works Agency, and it is better known by its more recent title. The W.P.A. was disbanded in June 1943.

The bulk of the funds was provided by the Federal Government. In the first months of the programme, the sponsor's share amounted to less than 12 per cent. of the total, but the sponsor's proportion was gradually increased until in 1940 the sponsors' funds averaged nearly 30 per cent. of the total.

Like the C.W.A., the W.P.A. imposed no limitations on earnings other than the establishment of maximum hours at 8 per day, 40 per week, and 140 per month. In general, prevailing wage rates were paid in each instance.

Because of the emphasis on employment at the site, W.P.A. construction projects consisted mainly of highways, roads and streets. As can be seen from table 15, expenditures on such projects constituted nearly 40 per cent. of the total. Public service projects constituted nearly 22 per cent. of the total. Total employment on W.P.A. projects was never quite as high as the maximum reached on C.W.A. projects; at its peak in November 1938, employment on W.P.A. projects was 3.3 million.

The W.P.A. did not absorb men as quickly as either the F.E.R.A. or the C.W.A. had done (see table 16). Indeed, the W.P.A. did not employ workers as fast as they were released from the F.E.R.A. work programme, and consequently the total number of people employed on work relief projects fell during the first months of W.P.A. operations. It is difficult to explain why this should have been the case. The organisation started operations later in the year than the F.E.R.A., and adverse weather conditions caused delay on some projects. However, the C.W.A. began its activities under much worse weather conditions, beginning as it did in November, and nevertheless it provided jobs much more quickly than the W.P.A. At the time the W.P.A. was established, general economic recovery was under way and it is probable that private enterprise was absorbing men more quickly than in the last months of 1933. On the other hand, there were still 10 or 11 million unemployed persons in the country, and recovery by private enterprise could not have been a major factor in the relative delay in starting W.P.A. projects. It seems likely that the more complicated procedure of application and approval of projects was partly responsible for the longer time the W.P.A. required to put men to work.[1]

[1] Donald S. HOWARD, in *The W.P.A. and Federal Relief Policy* (New York, Russell Sage Foundation, 1943), emphasises the "bottleneck" in the office of the Comptroller General. The Comptroller had his own criteria to apply to each project. He wanted to be sure that the amount allocated was sufficient to complete a project, or a useful part of it, in each instance; that at least 25 per cent. of the cost went into pay rolls; and that Federal regulations with regard to purchase and lease of land were being observed. Clearance by the General Accountant's office usually took several times as long as approval by the President. By the end of October 1935, the Comptroller General had countersigned only $900 million out of $2,700 million of W.P.A. expenditures approved by the President.

TABLE 15. DISTRIBUTION OF W.P.A. EXPENDITURES BY TYPE OF PROJECT, JULY 1935-JUNE 1941

Class of expenditure	Amount in $ million		Percentage of total
Division of Operation			
Highways, roads and streets	4,418		38.9
Public buildings	780		6.9
Schools	404		3.5
Recreation facilities	941		8.3
Water supply	287		2.5
Sewers	758		6.7
Other public utilities	115		1.0
Airports and airways	274		2.4
Conservation	423		3.7
Sanitation	222		1.9
Other	246		2.2
Total, Operation		8,868	78.0
Division of Community Service			
Public Utilities:			
Education	228		2.0
Recreation	229		2.0
Library	118		1.0
Museum	29		0.3
Art	33		0.3
Music	74		0.7
Writing	24		0.2
Total	735		6.5
Research and Records:			
Research and surveys	229		2.0
Public records	171		1.5
Historical record survey	29		0.2
Total	429		3.7
Welfare:			
Public health and hospital	74		0.7
Sewing	732		6.4
Production	73		0.6
Housekeeping aids	86		0.8
Household workers' training	4		0.04
School lunches	93		0.8
Surplus commodities	97		0.9
Other	134		1.2
Total	1,293		11.4
Total, Community service		2,456	21.6
Other		41	0.4
Grand total		11,365	100.0

Source: Donald S. HOWARD, *op. cit.*, p. 130.

TABLE 16. AVERAGE MONTHLY EMPLOYMENT ON W.P.A. PROJECTS, AUGUST 1935-DECEMBER 1939

(*Thousands*)

Month	1935	1936	1937	1938	1939
January	—	2,880	2,127	1,801	2,928
February	—	3,019	2,145	2,001	2,905
March	—	2,960	2,125	2,319	2,017
April	—	2,626	2,075	2.538	2,676
May	—	2,397	2,018	2,638	2,507
June	—	2,286	1,874	2,641	2,436
July	—	2,245	1,628	2,912	2,235
August	220	2,332	1,509	3,037	1,908
September	374	2,449	1,454	3,120	1,654
October	705	2,538	1,460	3,192	1,802
November	1,815	2,546	1,501	3,238	1,877
December	2,667	2,243	1,594	3,066	2,040

Source: Donald S. HOWARD, *op. cit.*, p. 854.

Because of the emphasis on relief, rather than on stimulation of the economic system as a whole, the economic effects of W.P.A. expenditures have never been analysed with the same thoroughness as the effects of P.W.A. expenditures. It is clear that the number of man-years of employment provided on the site of the project was much higher for W.P.A. than for P.W.A. projects. The average cost of Public Works Administration projects was $3,700 per man-year. Thus, as may be seen from table 17, expenditures per man-year on the site were nearly four times as high on P.W.A. as on W.P.A. projects. According to calculations made by Peter A.

TABLE 17. MAN-YEARS OF EMPLOYMENT ON THE SITE, AND LABOUR AND NON-LABOUR EXPENDITURES ON W.P.A. PROJECTS, JULY 1935 TO JUNE 1943

Period	Man-years of employment (millions)	Expenditure ($ million)			Average expenditure per man-year		
		Total	Labour	Non-labour	Total	Labour	Non-labour
					$	$	$
July 1935-June 1943	13.8	12,974	9,472	3,502	941	687	254
Fiscal year:							
1936	1.8	1,326	1,069	258	732	583	140
1937	2.2	2,051	1,527	524	919	685	235
1938	1.9	1,735	1,296	439	897	670	227
1939	2.9	2,561	1,958	604	879	672	207
1940	2.9	1,903	1,369	534	960	691	269
1941	1.7	1,787	1,212	575	1,075	730	346

Source: FEDERAL WORKS AGENCY, communication to the I.L.O.

Stone, a former member of the W.P.A. research staff, the direct labour provided by the W.P.A. on a sample of 202 projects was 3.8 times as great as if the work had been done by the contract method utilised by the P.W.A. Mr. Stone has also calculated that the cost of facilities provided by W.P.A. was only 13 per cent. higher than the cost of constructing the same projects by ordinary contract methods. There can be no doubt, therefore, that the W.P.A. method of procedure is more efficient in providing work on the site of the project.

While hard to estimate, it seems likely that total employment per million dollars spent, both on and off the site, was greater on W.P.A. than on P.W.A. projects. To a large extent, the high rate of on-site employment on W.P.A. projects was due to a minimum use of materials and equipment; but the off-site employment provided by W.P.A. was at least one quarter and possibly one half that provided by P.W.A. for the same amount of expenditure. Moreover, because of the larger share of costs consisting of pay-rolls, the secondary increases in consumer spending were probably greater for the W.P.A. than for the P.W.A.

The experience of the W.P.A. strengthens the conclusions reached from the analysis of other American public work agencies. It shows again the superior efficiency of the force-account method for putting men to work quickly, and provides additional evidence that if private contract programmes are to be as readily expansible as force-account programmes, all plans and specifications must be prepared, sites must be acquired, legal and financial complications must be cleared away, and possibly contracts let, well in advance of the day projects must begin.

Summary

The history of public investment in the United States provides striking evidence of the need for advance preparation of public investment programmes, and for advance education of the general public on the basic principles of public investment policy. Fundamentally, the failure of the American Government to counteract fluctuations in private employment by public enterprise rested on a lack of conviction among the electorate that such intervention was necessary or desirable. Among professional economists, faith in monetary policy was so strong as to engender opposition to any direct attack on unemployment, until it had become a threat to social and political stability. Even then, the first steps were hesitant and, consequently, ineffective. The loans offered by the Reconstruction Finance Corporation brought forth little additional public investment because they provided no real improvement in the

financial status of local governments. The Public Works Administration failed because its scope was restricted, because it gave only limited financial aid to local governments, because adherence to normal methods of construction on a competitive contract basis resulted in costly delays, and because the projects were of a type providing relatively little on-site employment.

The work relief agencies (C.W.A., F.E.R.A. and W.P.A.) were successful in putting men to work quickly and in large numbers. Their impact on total income and employment was, unfortunately, substantially reduced by deflationary policies of local governments; but in themselves they were highly efficient employment creators. There is reason to suppose that both their secondary and their primary effects were greater per dollar spent than those of P.W.A. projects; and the costs were not very much higher.

Because of this sharp contrast between the relative efficacy of private-contract P.W.A. projects and the force-account C.W.A.-F.E.R.A.-W.P.A. projects, one might conclude that central Government force-account projects, plus direct Federal aid to subsidiary governments for force-account work, would be the best system of public investment. There are other considerations, however. In the first place, the work relief programmes were a failure in another respect; they created an impression of wasteful expenditure, and aroused antagonism even among their direct beneficiaries.[1] While the impression was largely unfounded[2], it is true that some projects

[1] Some sample reactions have been quoted in Ch. V. Another writer, while a strong supporter of public investment policy in general, writes:

> These emergency agencies provided enormous amounts of employment at Federal expense, but, for the most part, they did not carry on "public works" of the sort that met the standards of efficiency and necessity that public works officials like to be associated with. Many projects, devised in desperate haste to provide work of some kind for particular classifications of unemployed talent at particular locations, were subjected to public ridicule and abuse . . . Our disappointment should not cause us to reject the use of public works as one means of supporting the level of private business but it should make us revise our expectations and improve our planning and scheduling. (Beardsley RUML: *Tomorrow's Business* (New York, Farrar and Rinehart, 1945), pp. 215-216.)

Paul G. HOFFMAN, Chairman of the National Committee for Economic Development, has stated:

> The Committee for Economic Development is fully conscious of the need for a post-war programme of public works . . . There is not a moment to lose in blueprinting public works projects at the Federal, State and local levels . . . We don't want another W.P.A. after the war. (Quoted in *Public Works Engineers' News Letter*, Dec. 1944.)

[2] The impression can be explained partly by the intangibility of many of the most useful projects: art, music, museum, theatre, writers, adult education, hot school lunch, research and survey, and similar projects; and by an unwarranted identification of public work with the ubiquitous street and road projects, conducted by seemingly inefficient techniques and clearly visible to all. Even for these projects, the expenditures might have seemed less wasteful to people from countries less accustomed to the use of heavy equipment — and less prone to admire machines.

yielded very little by way of direct returns to the community, and very few indeed were adequately planned. When one considers that the State Administrators had been allotted money to spend quickly, and had men literally pounding on their doors for jobs, it is not surprising that some of the projects were rather unproductive.

This experience should not be repeated if public support for using public investment as a stabilising factor is to be gained and maintained. The solution, as we have seen, is to prepare careful plans in advance, and to take all the steps that must precede initiation of projects, *before* the unemployment problem has become acute. *If* these steps are taken, the private contract method is no longer at a disadvantage. Some kinds of work are done traditionally by force-account, and can be done more efficiently that way. Others — perhaps most — can be done as well or better by private contractors. Advance planning makes it possible to choose between the two methods according to efficiency rather than expediency.

CHAPTER X

UNITED KINGDOM

In the United Kingdom, political and economic considerations not directly related to the level of employment seem to have had more influence on the volume and financing of public investment than concern with unemployment as such. No sustained effort to combat depression by public spending was made, either by the central Government or by the local authorities. A mixture of economy and expansion in 1929 and 1930 gave way to three years of economy, followed by another period of combined economy and expansion. At no time during the decade was the fiscal policy of the central Government as expansionary in Great Britain as it was in the United States, nor was the financing of subsidiary governments ever so deflationary as in the United States. On balance, Government finance as a whole seems to have been mildly stimulating during 1929 and 1930, somewhat deflationary in the next two years, neutral in 1933, and slightly expansionist from 1934 to 1938.

Peculiarities of the Situation in the 'Thirties

One of the major reasons for the failure of any clear-cut countercyclical policy to emerge during the 'thirties in Great Britain is that there the economic situation of the decade was not one of depression following prosperity, but rather one of depression being succeeded by worse depression. Great Britain faced an unemployment problem throughout the whole inter-war period, as table 18 shows. National income was on a low level throughout the 'twenties and dropped only 11 per cent. more from 1929 to 1932. In addition there were striking contrasts in unemployment rates as between expanding, stagnant, and declining industries, and as between different parts of the country, at all times during the inter-war period. These contrasts naturally directed attention to structural and secular, as distinct from cyclical, causes of unemployment, and gave rise to greater continuity of policy than appeared in other countries. In view of this persistence of some mea-

sure of economic depression throughout the 'twenties, a sharp break in employment policy after 1929 was hardly to be expected.

TABLE 18. UNEMPLOYMENT AND NATIONAL INCOME IN THE UNITED KINGDOM, 1924-1939

Year	Unemployment percentage[1]	National income[2]
		£ million
1924-1928 average	10.9	4,253
1929	10.4	4,384
1930	16.1	4,318
1931	21.3	3,889
1932	22.1	3,844
1933	19.9	3,962
1934	16.7	4,238
1935	15.5	4,530
1936	13.1	*
1937	10.8	*
1938	12.9	5,175

[1] Among insured workers. Source: *International Labour Review*, various issues.
[2] Source: for 1924-1935: Colin CLARK *National Income and Outlay* (London, Macmillan & Co., 1937), p. 88, for 1938: Cmd. 6623, White Paper on *An Analysis of the Sources of War Finances and Estimates of the National Income and Expenditure in the Years 1938 to 1944* (London, H.M. Stationery Office, Apr. 1945).
* Not available.

A second major factor in the British case was the preoccupation with international finance. From 1918 to 1925 economic policy was largely devoted to setting the stage for a return to the gold standard at the pre-war par of exchange. From 1925 to 1931, economic policy was largely concerned with protecting gold reserves,

The old rate of £1 = $4.86 was established, although the market value of the pound sterling was somewhat below this figure at the time, because American prices were expected to rise. When the American price level slowly sagged instead, the pound sterling appeared to be over-valued, and it was thought necessary to adopt a deflationary policy to reduce British prices, attract capital, and check the persistent tendency for gold to flow outwards. It seems likely that more basic factors, such as new competition in industry, shipping, and finance, the structural unemployment arising from the decline of certain major branches of industry, the continued slump in construction, and the failure to re-establish a truly international gold standard centred in London, had more to do with British difficulties during the 'twenties than over-valuation as such; but, in any event, the pound-dollar relationship was in the centre of the spotlight.

One of the corollaries of the effort to protect the gold standard, and of the deflationary policy that was considered necessary for that purpose, was the strong emphasis placed on balancing the national budget annually. This budget-balancing policy was carried

over into the depression period. As may be seen from table 19, surpluses were produced in every fiscal year from 1929 to 1937, except for a very small deficit in 1933. With tax revenues tending to fall with incomes, and a feeling in virtually all parties that the budget must be balanced at all costs, a truly expansionary public investment programme could not be undertaken.

The third peculiarity of the British situation was the greater role of rearmament. As may be seen from table 24[1], military expenditures began to increase in 1934, and from 1935 on they were the major factor in the growth of total Government outlays. These expenditures, of course, absorbed unemployed resources just as any other form of public investment would, but the elimination of unemployment was obviously not the chief motive behind the expansion. R.F. Bretherton *et al.* go so far as to state that "the net effect of the central Government's own operations was not great at any stage of the depression or recovery until the rearmament programme commenced".[2]

The Central Government

The public investment of the central Government was severely limited by the self-imposed strait-jacket of budget-balancing. The variations in the over-all budget up to the time rearmament began in earnest were too small to be of any real significance. Total expenditure and total revenue moved together within narrow margins. The one point of interest worth noting (see table 19) is that the economy campaign of 1931-1933, instead of producing an increased surplus, actually produced the sole deficit of the depression period proper, by aggravating the tendency for income to fall.

Central Government expenditures for public investment fell into three main groups: defence services, civil works, and the Post Office. As already pointed out, defence services played a much greater role than in the other countries discussed in this Part. The estimates of R. F. Bretherton *et al.* for new investment and maintenance outlays of the defence services show a very rapid rise after 1936. The figure for the fiscal year 1939 was nearly four times that for the fiscal year 1932. At £209 million, investment for defence was the major item in central Government investment in 1939. Both the level and the fluctuations in civil works investments were too small to be of any significance. It is interesting to note in passing, however, that outlays for new works varied less than outlays for repairs and maintenance. The Post Office, which includes telephone and telegraph services in its

[1] See below, p. 177.
[2] *Op. cit.*, p. 359.

TABLE 19. UNITED KINGDOM: TOTAL REVENUE AND EXPENDITURE OF THE CENTRAL GOVERNMENT, 1929-1939

(*£ million*)

Year ending 31 March	Total revenue	Total expenditure	Budget surplus (+) or deficit (−)	"Real" change in Government debt[3]
1930	756	722	+34	+10.6
1931	798	755	+43	+42.0
1932	793	760	+33	+19.6
1933	767	773	− 6	−31.8
1934	750	711	+39	−26.3
1935	742	722	+20	−17.1
1936	778	763	+15	−13.0
1937	824	817	+ 7	*
1938	872	898[1]	−16	*
1939	927	1,068[2]	−141	*

Source: Finance Accounts of the United Kingdom.

[1] Including £64 million covered by debt operations [2] Including £128 million covered by debt operations. [3] Calculations of R. F. BRETHERTON, *et al.*, *op. cit.*, p. 59. Capital funds used as revenue to balance the budget are excluded from revenue and debt redemption from expenditure, to obtain the "real budget surplus". The excess of income over expenditure by the social insurance funds and the Road Fund and the issues to meet Post Office capital expenditure are then added. Borrowing to finance the Exchange Equalisation Fund is omitted.

* Not given in source.

operations, is of interest as the one public utility owned and operated by the central Government. Its total transactions are sizable — indeed, it is said to be the largest commercial undertaking in the country[1], but since its activities are largely carried out in response to current demand, at charges calculated to yield a small surplus, they are not an effective means of counteracting fluctuations in employment. Post Office capital outlays might be used as an instrument of employment policy, but in the 'thirties these varied with rather than against the cycle, except for small increases in 1930 and 1931. According to R. F. Bretherton *et al.*, "except in the fiscal year 1930, the Post Office as a whole did not contribute towards a mitigation of the investment cycle".[2]

Central Government purchases of capital goods declined slightly from 1928 to 1933 (fiscal years), rose somewhat in 1934 and 1935, and more rapidly thereafter as rearmament was accelerated (table 20). Thus public investment by the central Government was, if anything, cyclical rather than compensatory, but the total variations up to 1936 were so small that the effects must have been quite insignificant.

Tax policy, an adjunct of the budget-balancing policy, was also cyclical rather than compensatory. The basic income tax was raised from 4s. 0d. in the pound in the fiscal year 1930 to 4s. 6d. in 1931 and 5s. 0d. in 1932, where it remained until 1935, when

[1] Cf. Ursula HICKS, *op. cit.*, p. 11.

[2] *Op. cit.*, p. 115.

it was reduced to 4s. 6d. again. Tariffs, tea duties, and liquor and tobacco taxes were also raised during the 1929-1932 downswing. In the first two years of the downswing, some slight expansionary effect was achieved by borrowing for unemployment insurance benefits; but in 1931, this practice was stopped, and thereafter social insurance contributions exceeded payments. The British income taxes went quite far down the income scale, and commodity taxes and social insurance contributions bear particularly heavily on the lower income groups. Thus tax policy in the downswing was deflationary rather than expansionary.

TABLE 20. THE PUBLIC, SEMI-PUBLIC, AND PRIVATE DEMANDS FOR CAPITAL GOODS IN GREAT BRITAIN

(*£ million*)

Fiscal year	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938
Local authorities (Capital + maintenance)	222	228	198	202	206	211	170	165	173	194	210	224
Central Government	62	64	61	61	59	55	52	54	61	80	125	192
Public utility railways, electricity, etc.	73	80	81	80	83	83	79	71	72	83	86	91
Total	357	372	340	343	347	349	301	290	306	357	421	507
Output of capital goods for private demand	423	446	480	495	424	320	341	409	479	515	547	*
Total investment	780	818	820	838	771	669	642	699	785	872	968	*
Public investment as percentage of total	42	45	41	41	45	52	47	41	39	41	43	*

Source: R. F. BRETHERTON *et al.*, *op. cit.*, p. 407.
* Not given in source.

THE LOCAL AUTHORITIES

The bulk of peacetime public investment in Great Britain is carried out by local authorities. Public utilities and housing are much more of a local government responsibility in Britain than they are in the United States or Canada. Moreover, the local governments in Britain do not traditionally follow a "pay-as-you-go" policy to the same extent as in North America. On the contrary, capital expenditures are almost wholly loan financed.

Thus local authority expenditures could constitute a strong weapon against unemployment in Great Britain. Unfortunately,

as shown in tables 20 and 21, the investments of local authorities in the 'thirties show no clear-cut counter-cyclical movement. They did increase from (fiscal) 1929 to 1932, but they fell off drastically in 1933 and 1934, under the impact of the central Government's economy campaign. There were only minor differences in timing among the main categories of local authority investment. Capital outlays on roads, education, libraries, and public health followed the general pattern. Capital expenditures of the trading services (public utilities) fell steadily throughout the whole depression period, while outlays for housing fell off in 1931, rose in 1932, and then dropped until 1936.

TABLE 21. ENGLAND AND WALES: CONSTRUCTION EXPENDITURES OF LOCAL AUTHORITIES
(*£ million*)

Fiscal year	Total	Capital	Maintenance	Housing
1930	159.5	86.4	73.1	33.2
1931	168.0	94.0	74.0	29.7
1932	173.4	101.4	72.0	32.4
1933	138.0	72.3	65.7	21.2
1934	133.0	65.8	67.2	21.2
1935	138.5	66.9	71.6	18.9
1936	155.7	80.6	75.1	25.6

Source: R. F. BRETHERTON *et. al., op. cit.*, tables 29 and 30.

Road expenditures followed closely the variation in grants from the central Government through the Road Fund. In 1929, the central Government's share in road maintenance expenditures was raised from 25 per cent. and 50 per cent. (for class I and class II roads respectively) to 50 per cent. and 60 per cent. Later in the same year, provision was made for unemployment relief expenditures on trunk roads, with the central Government grant ranging from 50 to 75 per cent. The appropriations made under these measures were cancelled during the economy drive of 1931, and work in process was halted as quickly as possible. Grants actually made through the Road Fund increased from £14.2 million in (fiscal) 1929 to £19.2 million in 1931, and then sagged to a low point of £12.1 million in 1934.

The tax policy of the local governments was slightly compensatory. The yield of local rates fell from 1928 to 1932 and rose thereafter. The cyclical pattern is due partly to the fluctuation in national income, but partly to the "derating" provisions of the Local Government Act of 1929. Under these provisions, local authorities were compensated by the central Government for

reducing local tax rates on agriculture, railways, and "productive" industry.[1] As Mrs. Hicks points out, "the essence of derating was the transfer of part (or in the case of agriculture, the whole) of the existing liability of industrialists for local taxation, to the shoulders of the general body of taxpayers".[2] It is hard to say whether or not this measure was expansionary for the economy as a whole, particularly since it was accompanied by a shift from "proportional" to "block" grants[3] to local authorities, thus diminishing the incentive for expansion of local authority expenditures. However, it did have the effect of making the public investment policy of the local authorities by themselves compensatory during the downswing. Expenditures increased, and revenues fell, from 1928 to 1932.

This conclusion is borne out by the record of local authority borrowing during the depression. Local authority borrowing through stock issues and the Public Works Loan Board rose from £30 million in 1929 to £60 million in 1930, fell to £28 million in 1931, but rose again to £39 million in the following year. Net loan debt (gross loan debt minus sinking fund) increased from £1,107 million at the end of (fiscal) 1929 to £1,300 million at the end of 1933, somewhat less than in the preceding five-year period. Considering that local authority investment constituted more than 25 per cent. of total public and private investment in the late 'twenties, the stability of the local authorities' capital outlays, and the slightly expansionary method of financing them during the downswing, no doubt acted as a sea-anchor against the drift of national income to lower levels.

Housing

Housing played so important a role in the economic history of Great Britain during the 'thirties that it has seemed advisable to deal with it separately. Some economists have gone so far as to attribute the disparity between British and American experience during the inter-war period largely to the difference between the housing cycles in the two countries. In Great Britain, there was a low level of residential construction in the 'twenties and a housing boom in the 'thirties, while the pattern was just the reverse in the United States[4]. It is at least true that investment in housing

[1] An industry was "productive" if it applied a definite process to new materials (Ursula Hicks, *op. cit.*, p. 78).

[2] *Ibid.*, p. 78.

[3] See above, Ch. V.

[4] See, for example, Alvin H. Hansen: *Fiscal Policy and Business Cycles* (New York, W. W. Norton and Co., 1940), Ch. I; and O. J. Firestone: "Measurements of Housing Needs, Supply and Post-War Requirements", in *Housing and Community Planning, op. cit.*, especially pp. 125-132.

amounted to 25 per cent. of the total during the 'thirties, that residential construction rose throughout the entire decade, and that public policy had something to do with this record.

British housing legislation dates from 1851, but national housing policy can be more properly said to have started with the legislation of 1919, which provided subsidies for dwellings built and operated by local authorities, Government sharing of interest costs for public utility societies or housing trusts, made up of groups organised to provide housing without profit to their membership, and lump-sum grants to private construction enterprise for houses complying with prescribed conditions as to the accommodation furnished and total cost. This basic legislation was revised and extended by various Acts during the 'twenties. Under the Housing Act of 1930, however, the commitments to subsidise housing were limited to slum clearance.

Legislation passed in 1933, the Housing (Financial Provisions) Act, terminated the subsidies granted under all previous Acts, providing only for the completion of buildings for which proposals had been submitted before 7 December 1932. However, by this law the Government undertook to share with the local housing authorities any losses sustained under terms of guaranty to building societies.[1] The building societies encouraged private building by providing 30-year mortgages at 3½ to 4 per cent., with 10 per cent. down payments, and were the major factor in private housing during the inter-war period. The Housing Act of 1935 dealt with overcrowding and with the redevelopment and reconditioning of dwellings. It established standards below which overcrowding should be deemed to exist, authorised Exchequer contributions towards the provision of flats on sites of high and ordinary value, provided for assistance to the housing of the agricultural population, and fixed the ratio between Government aid and local authority contributions to the housing of slum dwellers. Aid to the agricultural population was authorised on a per-dwelling basis, with a Government contribution of not less than £2 nor more than £8 for a period of 40 years, plus £1 annually for the same period from the local authority.

Under the various Acts, nearly 1½ million houses were built between 1919 and 1938 (table 22). Undoubtedly, public policy

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[1] Mrs. HICKS says of this Act:

> In contrast to the housing legislation of the 'twenties, the "slum clearance Act" of 1933 was niggardly in its inducements and stringent in its requirements. It was possible to make it so, and for it yet to be immediately effective because [in contrast to 1919] municipal housing departments were in full working order. But it was much assisted by the great fall in building costs which has occurred. (*Op. cit.*, p. 169.)

TABLE 22. ENGLAND AND WALES: HOUSING UNITS[1] BUILT WITH PUBLIC ASSISTANCE BY LOCAL AUTHORITIES AND PRIVATE AGENCIES, 1919-1938

Housing Act	Local authorities	Private agencies	Total
Housing and Town Planning Act, 1919	170,090	4,545	174,635
Housing (Additional Powers) Act, 1919	—	39,186	39,186
Housing Act, 1923	75,309	362,738	438,047
Housing (Financial Provisions) Act, 1924:			
(*a*) In agricultural parishes	29,444	2,062	31,506
(*b*) In other parishes	475,074	13,718	488,792
Slum Clearance Acts, 1930 and 1936	225,453	5,753	231,206
Acts of 1935 and 1936:			
Abatement of overcrowding	14,953	225	15,178
General housing needs[2]	67,182	—	67,182
Total	1,057,505	428,227	1,485,732

Source: "Twenty Years of Housing Progress", by Monica PIDGEON, in *Architectural Design and Construction* (London), Apr. 1943.

[1] Including houses built in rural areas. [2] Houses for general needs built under these Acts were not subsidised.

contributed enormously to the improvement of housing conditions in Britain; but it had relatively little to do with the countercyclical behaviour of residential construction in the 'thirties, as a glance at table 23 will show. Building by local authorities did indeed increase during the downswing, but it was far below the peak level of 1927, and it dropped off sharply in 1933, one of the worst years of depression. Private building with Government

TABLE 23. HOUSE BUILDING IN ENGLAND AND WALES, 1927 TO 1939

Year ending 30 September	Number of dwellings built by private enterprise			Number of dwellings built by local authorities			Total output
	With State assistance	Without State assistance	Total	With State assistance	Without State assistance[1]	Total[2]	
1927	99,642	60,313	159,955	113,274	—	113,274	272,229
1930	2,272	107,410	109,682	49,052	2,965	52,017	161,699
1931	1,866	129,790	131,656	60,169	3,119	63,288	194,944
1932	2,656	130,830	133,486	66,434	2,056	68,490	201,976
1933	2,456	166,644	169,100	47,977	1,236	49,213	218,313
1934	2,581	257,746	260,327	49,679	3,663	53,342	313,669
1935	230	275,069	275,299	32,685	10,660	43,345	318,644
1936	306	274,348	274,654	63,749	1,125	64,874	339,528
1937	*	264,231	*	70,630	*	*	337,134[3]
1938	*	248,913	*	87,452	*	*	340,878[3]
1939	*	230,000	*	105,000	*	*	340,000[3] [3]

Source: W. A. MORTON: *British Finance 1930-1940* (Madison, University of Wisconsin Press, 1943), p. 320.

[1] Figures not available for 1937-1939. [2] Including construction by local authorities, unassisted, and by private enterprise, assisted. [3] Trends projected.

assistance was of little significance in the 'thirties, and displayed no clear-cut pattern. At no time during the decade did public housing plus State-aided private housing reach 50 per cent. of total residential construction, while in 1927 these two categories comprised nearly 80 per cent. of the total. The dominant feature of the housing "boom" of the 'thirties was the strong upward surge of private building without State assistance, in response to the cheap money policy, low construction costs, and an accumulated demand. Such public investment in housing as took place was more the result of low costs and great need than of employment policy. However, it is worth noting that the passage of enabling legislation and the organisation of the housing authorities prior to 1929 made it possible for public investment in housing to serve as a stabilising factor during the downswing.

The Over-all Picture

Professor Morton sums up his survey of British public investment during the 'thirties with the observation that throughout the period "central and local authorities continued to spend the moneys under their control in accordance with ordinary service and business considerations, without attempting to influence the course of the trade cycle. . ."[1], and concludes that "the British recovery from the great depression was not occasioned by pump-priming or by new enterprise on the part of public authorities. It was probably aided somewhat by the stability of consumption which accompanied a large volume of relatively stable Government expenditures from both revenue and capital, but it was private investment which effectively brought recovery".[2]

Public investment acted as a stabiliser in the 'thirties, but mainly for more or less accidental reasons. During the 'twenties, Government social and economic expenditures reached high levels, and public investment grew to be a substantial portion of the total. During 1929-1931, the trend was not reversed, as tables 20 and 24 show, with the result that public investment became a still larger share of the total. So firmly entrenched were the public authorities, that even the economy campaign did not bring drastic reductions in public investment. The central Government budgets were in almost perfect balance throughout the period anyhow, so that the small variations in expenditure were of little importance. The local authorities' tax collections fell off during the downswing, so that the stability of outlays was mildly expansionary. During the whole decade, public and semi-public authorities were respon-

[1] *Op. cit.*, p. 338.
[2] *Ibid.*, p. 331.

TABLE 24. GREAT BRITAIN: TOTAL EXPENDITURE OF CENTRAL AND LOCAL GOVERNMENTS, 1924-1936

(*£ million*)

Year	National Debt services[1]	Military expenditure[2]	Civil government	Social expenditure[3]	Economic expenditure[4]	Total
Average 1924–1928	368.4	185.0	50.0	363.3	252.8	1,219.5
1929	355.0	168.7	51.6	421.8	274.7	1,271.8
1930	360.0	164.0	50.8	483.1	282.2	1,340.1
1931	322.0	158.2	50.7	503.3	280.2	1,314.4
1932	308.5	153.0	56.2	475.5	272.0	1,265.2
1933	224.0	153.1	57.1	472.7	274.3	1,181.2
1934	224.0	159.3	57.1	475.7	288.0	1,204.1
1935	224.0	180.6	61.0	491.6	298.8	1,256.0
1936	224.0	229.4	62.4	498.6	308.6	1,323.0

Source: Ursula K. HICKS, *op. cit.*, p. 380.

[1] Budget charge. [2] Includes Army, Navy and Air Force, Middle East services, war pensions, Imperial War Graves Commission, resettlement of ex-service men, relief for war victims, unclassified war expenditure. [3] Includes education, health, unemployment relief works, social insurance (less Government contribution), and friendly societies' deficiency grant. [4] Includes aid to industry and trade, and to agriculture, local trading services, roads, and Post Office.

sible for some 45 per cent. of the total demand for capital goods. No doubt the relative stability of public investment in Great Britain contributed to the relative stability of the national income, but it was on too small a scale to eliminate unemployment in the 'twenties, or to prevent unemployment from increasing in the 'thirties.

So far as measures designed expressly to alleviate unemployment are concerned, public investment played a small part (see table 25.) Direct relief reached much higher figures than for all other forms of unemployment policy combined.

TABLE 25. GREAT BRITAIN: ACTUAL EXPENDITURE RELEVANT TO UNEMPLOYMENT POLICY

(*£ million*)

Year	Direct relief	Grants[2] for		Road works to relieve unemployment
		Public works schemes, etc.	Transfer and training	
Average 1924–1928	135.7	3.46	0.91	4.32
1929	160.6	1.76	1.0	4.27
1930	216.2	2.6	0.9	16.21
1931	242.3	3.17	0.75	6.97
1932	243.0	3.5	0.63	2.38
1933	231.5	4.51	0.73	0.92
1934	233.9	4.65	1.4	0.61
1935	239.2	4.9	1.4	0.27
1936	226.1[1]	6.1	2.1	0.22

Source: Ursula K. HICKS, *op. cit.*, p. 194.

[1] Estimate. [2] Appropriation accounts, net issues.

Finally, it should be mentioned that the regional distribution of British public investment was no more closely related to employment than the temporal distribution. On this matter, R. F. Bretherton *et al.* conclude:

> In a broad way, there is a distinction between the prosperous areas of the Midlands and South England and the much less prosperous areas of South Wales, Lancashire and Cheshire, and the North-East Coast. The prosperous areas moved fairly close together, and on the whole showed bigger fluctuations both upwards and downwards; the less prosperous areas moved on varied paths, but were characterised . . . by relative stability . . . There has been extreme diversity, both in the amount of capital expenditure and in its timing and regularity [by county boroughs] . . . The general level of capital expenditure was usually low in the regions, and particularly in individual towns, where unemployment has been high over the whole period.[1]

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[1] *Op. cit.*, pp. 166, 167, 175.

CHAPTER XI

CANADA

The impact of the Great Depression upon Canada was severe. In the 'twenties, Canada had obtained over one third of its national income directly from sales abroad. Moreover, two thirds of its exports consisted of raw materials, the prices for which proved especially sensitive. Between 1929 and 1932 the average of all Canadian export prices declined 40 per cent., while the export prices of farm products alone fell 70 per cent. During the same period, the general wholesale price level dropped 30 per cent. In 1933, the national income of Canada was only 52 per cent. of the corresponding 1929 figure. By 1932 the volume of industrial production had fallen 42 per cent., as compared with 1929, and by 1933 employment had decreased 30 per cent. Table 26 illustrates the general economic deterioration after 1929.

TABLE 26. STATISTICS RELATING TO THE DEPRESSION IN CANADA, 1929-1933

Year	Index (base: 1929 = 100)				National income[5] $ million
	Export prices[1]	Wholesale prices[2]	Industrial production[3]	Employment[4]	
1929	100	100	100	100	5,300
1930	84	91	85	95	4,500
1931	66	75	71	86	3,600
1932	60	70	58	74	2,800
1933	60	70	61	70	2,700

Sources: [1] *Report of the Royal Commission on Dominion-Provincial Relations, op. cit.*, p. 146. [2] DOMINION BUREAU OF STATISTICS: *Prices and Price Indexes, 1913-1943* (Ottawa, 1945), p. 9. [3] LEAGUE OF NATIONS: *World Economic Survey*, 1932-33, p. 84; 1934-35, p. 115. [4] *Labour Gazette*, Vol. XLV, No. 6, June 1945, p. 907. [5] *Canada Year Book*, 1943-44, p. 797.

UNEMPLOYMENT RELIEF

The most important and most immediate anti-depression measure was the payment of unemployment relief by the Dominion, the provinces, and the municipalities. The enactment of Federal unemployment relief legislation began in 1930. One of its chief

purposes, as set forth in the first Unemployment Relief Act, was to provide for the expenditure of large sums of money "in constructing, extending, or improving public works and undertakings, railways, highways, bridges and canals, harbours and wharves;... granting aid to provinces and municipalities in any public work which they may undertake for relieving unemployment; and reimbursing expenditures made by provinces and municipalities in connection with unemployment, and generally in any way that will assist in providing useful and suitable work for the unemployed".[1] The scale of relief was small, however. By March 1936 the Dominion Government had made payments to the provinces amounting to only $172 million[2], which represents an average annual expenditure of less than $25 million, or only 0.9 per cent. of the national income in 1933. During the period 1930-1937 a grand total of $787.1 million was spent by the Dominion and provincial Governments on unemployment relief[3], an average of less than $99 million per year, or less than 2 per cent. of the national income in 1929. A summary picture of the extent of relief expenditure between 1930 and 1937 can be seen in table 27.

TABLE 27. CANADA: TOTAL RELIEF EXPENDITURES OF THE DOMINION AND THE PROVINCES, 1930-1937

($ *thousand*)

Year	Relief works		Direct relief		Other relief[1]		Total		
	Value	Per cent. of total	Value	Per cent. of total	Value	Per cent. of total	Value	Per cent. of total	Per cent. of national income
1930	5,937	56.1	3,918	37.1	717	6.8	10,572	100.0	0.2
1931	45,469	61.0	26,345	35.3	2,743	3.7	74,557	100.0	2.1
1932	29,909	41.5	36,642	50.8	5,598	7.7	72,149	100.0	2.6
1933	12,779	17.3	60,733	82.0	491	0.7	74,003	100.0	2.7
1934	46,037	35.3	83,799	64.3	478	0.4	130,311	100.0	4.1
1935	73,737	48.4	77,568	50.9	1,129	0.7	152,434	100.0	4.5
1936	47,517	31.5	95,353	63.2	7,909	5.3	150,779	100.0	3.9
1937	29,890	24.4	72,749	59.5	19,623	16.1	122,265	100.0	2.8
Total	291,275	37.0	457,107	58.1	38,688	4.9	787,070	100.0	

Sources: *Report of the Royal Commission on Dominion-Provincial Relations*, *op. cit.*, Appendix I, p. 7; *Canada Year Book*, 1943-44, p. 797.

[1] Including care for single homeless men, youth training, etc., but excluding aid under various agricultural assistance Acts.

[1] L. GETTYS, *op. cit.*, p. 145.

[2] *Ibid.*, p. 167. Includes payments for public works.

[3] Unemployment relief, as understood in this study, excludes long-run or ordinary public works expenditures, which are discussed below in connection with general public investment policy.

Public Investment

The unemployment relief expenditure of the 'thirties was a makeshift emergency measure, designed not so much to achieve a long-run recovery and stabilisation of the Canadian economy as to bring immediately some kind of order out of the economic chaos which had engulfed the country. Indeed most Government authorities placed little faith in the policy implications of the comparatively new Keynesian theories pertaining to counter-cyclical public investment. On the contrary, governmental views, which "faithfully reflected the most widely held opinions of business men, bankers, and professional economists"[1], supported the principles of orthodox finance and considered the deliberate, inverse variation of public spending with the level of employment to be both undesirable and dangerous. The nature and scope of public investment in Canada during the 'thirties (in contrast to direct relief, which in 1933 comprised about 82 per cent. of all relief expenditures, and public works in the more narrowly defined sense of "relief works") reflected these views, as table 28 indicates.

TABLE 28. GROSS INVESTMENT AND MAINTENANCE, BY GOVERNMENTS, IN CANADA IN SELECTED YEARS FROM 1926 TO 1941

(*$ million*)

Year	Governments							
	Dominion		Provincial		Municipal		All	
	Value	Per cent. of total	Value	Per cent of total	Value	Per cent. of total	Value	Per cent. of total
1926	47.4	29.8	49.8	31.4	61.6	38.8	158.8	100.0
1929	79.9	31.1	90.7	35.3	86.5	33.6	257.1	100.0
1930	98.7	32.7	114.5	37.9	89.0	29.4	302.2	100.0
1933	35.9	24.7	47.5	32.7	61.9	42.6	145.3	100.0
1937	48.8	18.7	148.3	56.7	64.3	24.6	261.4	100.0
1941	424.0	73.2	89.2	15.4	65.8	11.4	579.0	100.0

Source: Dominion-Provincial Conference on Reconstruction: *Public Investment and Capital Formation*, *op. cit.*, p. 26.

The major observation to be made from the above table is that direct governmental outlays on public investment rose sharply in prosperous years and declined drastically in depression years. Between 1926 and 1929, public investment expenditure of all Governments increased 62 per cent., and between 1933 and 1937,

[1] *Report of the Royal Commission on Dominion-Provincial Relations*, *op. cit.*, p. 152.

80 per cent.; while from 1930 (the peak year) to 1933 it decreased 52 per cent. The same cyclical pattern was followed by each level of government — Dominion, provincial, and municipal. It should be noted, in the second place, that throughout the 'thirties Dominion governmental expenditure on public investment did not constitute the greatest part of total expenditure of this kind by all governments — even in 1930, at the height of the boom, the former amounted to only 32.7 per cent. of the total, and in 1937 to only 18.7 per cent.; from this it is obvious that the bulk of public investment activity in Canada was carried out by subsidiary governments. Thirdly, the increasing importance of investment by provincial governments — the peak (56.7 per cent. of the total) being attained in 1937 — should be noted; this, together with the violent cyclical fluctuations in provincial public investment, despite substantial Dominion disbursements to the provinces from 1930 to 1936 ($68.3 million for direct relief, $52.4 million for public works, and $40.3 million in the form of grants-in-aid)[1], contributed to the fluctuation of incomes and employment. Of considerable interest, finally, is the relative stability of investment expenditure by municipal governments — it increased 40 per cent. during 1926 to 1929 and 4 per cent. during 1933 to 1937, and dropped 30 per cent. between 1930 and 1933.

Also clearly indicative of the lack of any counter-cyclical public investment policy are comparative analyses of the variations of public and private investment in general (see chart V), and of investment in publicly and privately owned utilities (see chart VI). In both cases, public investment increased and decreased together with private investment, intensifying rather than mitigating the downswing.

It is significant for policy purposes to note the great importance of utilities, particularly those which are publicly owned, in the investment field. In 1929, for example, investment in publicly and privately owned utilities combined amounted to $523 million, or about 30 per cent. of total public and private investment; investment by publicly owned utilities comprised 48 per cent. of total public investment, and investment by privately owned utilities 23 per cent. of total private investment.[2] Moreover, the decline suffered by publicly owned utilities outlay after 1930 (65 per cent.) was even greater than that of direct Government outlay (52 per cent.).[3]

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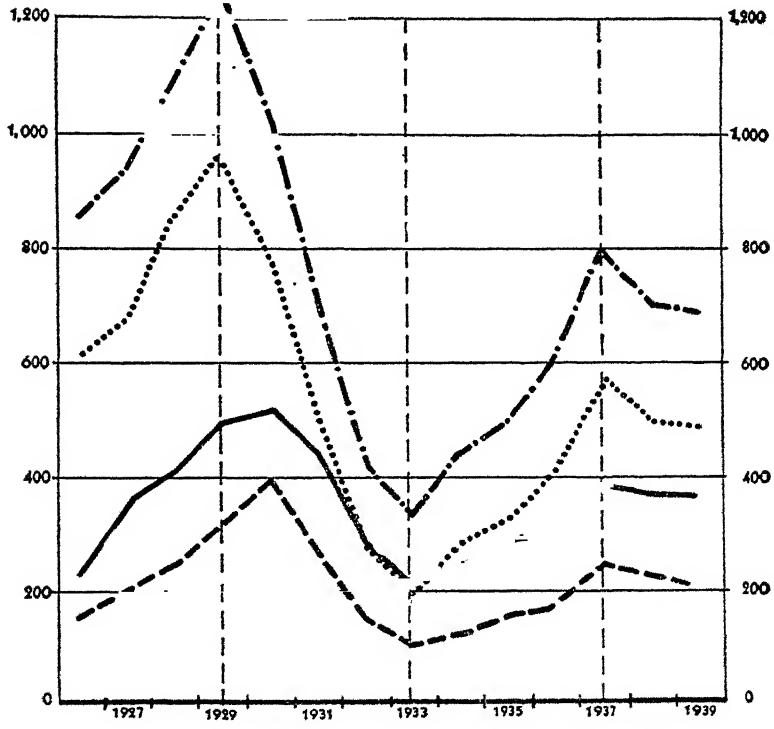
[1] L. GETTYS, *op. cit.*, p. 168. The provinces seem to have used the grants to reduce their debts, rather than to increase their investment expenditure.

[2] DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation, op. cit.*, p. 34.

[3] *Ibid.*, p. 35.

Chart V. Canadian Public and Private Investment in Durable Physical Assets and Repairs and Maintenance, 1926-1939

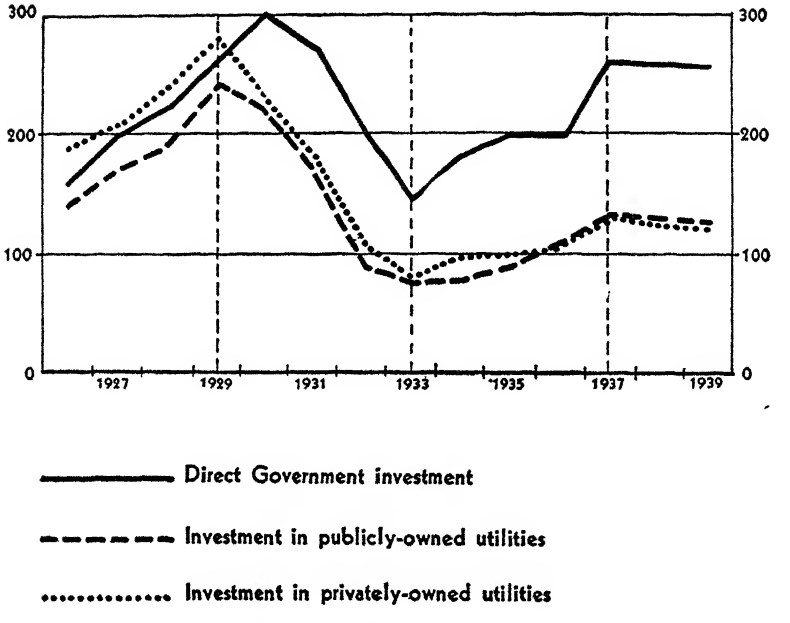
(In $ million)



Source: DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation*, *op. cit.*, pp. 30, 31, 34, 35.

Chart VI. Canadian Investment in Durable Physical Assets and Repairs and Maintenance: Direct Government, Publicly Owned Utilities and Privately Owned Utilities, 1926-1939

(In $ million)



Source: DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation, op. cit.*, pp. 34, 35.

Even in the construction field, where (as in the United States) public investment was most heavily concentrated, activity rose during the boom and fell sharply during the downswing. Table 29 emphasises this fact.

The Prairie Farm Rehabilitation Act of April 1935 was a Federal measure designed to rehabilitate the western farmer, who was undergoing the vicissitudes of drought and economic depression, and to stabilise his economic position at a relatively higher level, while at the same time conserving the natural resources of the country. The Prairie Farm Rehabilitation Branch has developed a programme of agricultural experiment and research into land utilisation and water development. Water conservation has been the primary problem in overcoming drought conditions on the prairies, and water development projects have been the most important part of the programme which has affected the economy of the prairies in a number of ways. Methods of soil-drifting control demonstrated by the

TABLE 29. CONSTRUCTION ACTIVITY IN CANADA, 1925-1937

Year	Construction[1] contracts awarded
	$ million
1925	298
1926	373
1927	419
1928	424
1929	576
1930	457
1931	315
1932	133
1933	97
1934	126
1935	160
1936	163
1937	224

Source: *Maclean Building Reports.*

[1] Most construction work undertaken by public authorities is carried out by contract. In 1937 almost two thirds of the total expenditures of $208.3 million was carried out by private contractors and business men. Of the direct Government work that is done, much the greater proportion is devoted to maintenance and repair work, rather than to new projects. [(DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation, op. cit.*, p. 28.)

Branch have been adopted; the establishment of community pastures and the regrassing programme have helped to increase livestock production, while the water development policy has assured the West of a steady water supply, with the result that livestock production and diversified farming have been encouraged and the prairie farmer has been freed from dependence on exclusive cereal production. Between 1935 and 1939, nearly $10 million were spent under the Act.

The Municipal Improvements Assistance Act enacted in the summer of 1938 was another instance of a Federal anti-depression measure adopted after the worst of the depression had been weathered. The Act was designed to assist municipalities in making self-liquidating improvements by offering them Dominion loans covering the whole or part of the cost of constructing, improving, extending or renewing certain publicly-owned public utilities, such as a municipal waterworks system, gas plant, electric light system, or other municipal projects of a self-liquidating nature. Loans were only available in cases where an urgent need for the project existed and where execution of the project would assist in the relief of unemployment in the municipality concerned. Municipal applications for a loan and the project to be financed required approval of the appropriate provincial government. In addition, the provincial government concerned was required to guarantee the payments for the interest on and the amortisation of the loan. Loans so made were to bear interest at the rate of 2 per cent. per annum and were to be amortised by semi-annual payments

sufficient to pay off the loan during a period not longer than the estimated useful life of the project. The Act provided that the aggregate principal amount of loans to be made was not to exceed $30 million. The aggregate principal amount of loans to any one municipality was not to exceed that proportion of the sum of $30 million which the population of the municipality bore to the total population of Canada, as determined by the population figures of the 1931 census. However, it was provided that a loan not exceeding $200,000 might be made to any municipality of whatever population. Actually, only $815,000 were lent up to 31 March 1939, and the Act proved more important in aiding municipalities with needed war works than in reducing unemployment.

In June 1934 the Government issued $52 million of Dominion notes to finance public investment. The purpose of this measure, however, was more to assist monetary expansion by adding to bank reserves, than to create employment directly.

The changes which occurred in the public debt were closely related to the financing of public investment. The combined deficits of all governments increased during the prosperous 1925-1929 period. They increased in 1930, but fell during the 1930-1933 downswing. A similar pattern characterised municipal borrowing. Provincial borrowing increased in 1930 and 1931, but contracted in 1932 and 1933. The debt incurred by provincial governments for public works and self-supporting assets shows a rather steady upward trend, throughout the 'twenties and 'thirties, increasing in boom and depression alike; but when the debt so incurred by the Dominion and the Canadian National Railways (C.N.R.) is added in, the total varies with the cycle instead of counteracting it. Table 30 summarises these debt changes.

While the public investment policy of the Canadian provinces as a whole was cyclical rather than counter-cyclical, some of the provincial governments did undertake to combat unemployment by public work at one stage or another of the depression. The outlays for investment by the government of *Nova Scotia*, for example, rose from $2.9 million in 1929 to $5.1 million in 1933, and continued to rise to $12.7 million in 1937. Expenditures on streets, highways, and bridges accounted for most of this increase. The programme was not large, however, in comparison with the drop in provincial income from an estimated $169 million in 1929 to an estimated $108 million in 1933.[1] The use of public investment as a recovery measure was delayed in *Ontario* until after the depths of depression had been reached. Gross investment and

[1] *Report of the Royal Commission on Dominion-Provincial Relations, op. cit.*, Appendix 4: *National Income* (Ottawa, 1939), p. 53.

TABLE 30. CANADA: DEBT INCURRED BY THE DOMINION, PROVINCES AND MUNICIPALITIES, 1921-1937

($ thousand)

Year	Increase in debt				Volume outstanding of debt incurred for public works and self-supporting assets		
	All governments[1]	Dominion and C.N.R.	Provinces	Municipalities	Dominion, C.N.R. and provinces[2]	Dominion and C.N.R.[2]	Provinces
1921	—	—	—	—	971.3	470.2	522.2
1925	−20.8	−49.4	19.8	10.0	*	*	*
1926	53.5	− 5.8	38.5	20.9	2,153.3	1,355.3	826.5
1927	27.8	−49.1	34.3	32.7	*	*	*
1928	43.4	−28.9	55.2	17.1	*	*	*
1929	189.4	75.9	62.8	56.5	*	*	*
1930	448.4	211.7	142.2	93.7	2,071.9	953.2	1,143.6
1931	426.3	242.6	154.4	55.5	*	*	*
1932	269.6	157.7	94.2	42.7	*	*	*
1933	274.2	205.9	85.7	− 4.0	1,925.4	763 6	1,256.3
1934	263.1	170.2	117.4	3.0	*	*	*
1935	295.8	219.3	108.7	− 5.5	*	*	*
1936	16.8	24.5	29.6	−39.0	*	*	*
1937	143.1	55.6	124.1	−19.9	2,399.8	1,057.8	1,501.5

Source: *Report of the Royal Commission on Dominion-Provincial Relations, op. cit.*, Book III, pp. 21, 126-130.

[1] After elimination of increase or decrease of intergovernmental debt. [2] After elimination of intergovernmental debt.

maintenance increased from $24.9 million in 1929 to $31.3 million in 1930, but were cut almost in half between 1930 and 1933. Starting in 1934, however, the Ontario government undertook a considerable programme of public investment, and in 1937 the figure reached $48.8 million. Again, the outlays were very small as compared with the drop in provincial income to be offset. As in Nova Scotia, streets, highways, and bridges constituted the chief objects of expenditure. In *Quebec* public investment outlays were relatively well maintained, contracting less than 33⅓ per cent. between 1930 and 1933 ($21.1 to $14.9 million). By 1937, public investment expenditure was more than double the 1930 peak, and included among its various items an interesting experiment in colonisation projects to help to settle urban unemployed in rural sections.

CONCLUSION

Canadian recovery was the result more of an improving world situation than of the domestic policies pursued by the Dominion, provincial, and municipal governments. The Dominion Government, it is true, raised the tariff sharply during the depression years, and adopted numerous other protectionist measures, in an

attempt to maintain employment in the manufacturing industries.[1] It also carried the deficit of the Canadian National Railways (which had risen by over $65 million between 1928 and 1932)[2], spent some $20 million vainly trying to prevent wheat prices from falling to disastrously low levels[3], and paid transportation and other subventions to the sorely stricken coal industry. After recovery had already set in, private investment in housing was assisted by the Housing Acts of 1935 and 1938 and the Home Improvement Act of 1937; and the 1935 amendment of the Farm Loan Act gave credit assistance to farmers. By far the most important attempt to alleviate the depression, however, was the relief expenditure undertaken by the governments on all three levels.

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[1] ROYAL COMMISSION ON DOMINION-PROVINCIAL RELATIONS: *op. cit.*

[2] *Ibid.*, p. 161. The value of new investment, replacements, and major improvements in electric and steam railways fell 91 per cent. between 1929 and 1933 (DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Public Investment and Capital Formation, op. cit.*, p. 48).

[3] ROYAL COMMISSION ON DOMINION-PROVINCIAL RELATIONS: *op. cit.*, p. 162.

CHAPTER XII

AUSTRALIA AND NEW ZEALAND

Australia

Judged by the drop in national income alone (see table 31), the downswing of 1929-1932 was less severe in Australia than in the United States or Canada, but more severe than in Great Britain. In terms of unemployment, on the other hand, the Australian depression was as serious as any. One reason for this apparent paradox is that although Australian national income and wage rates continued to rise from 1927 to 1929, unemployment also grew. By 1929, trade union unemployment had already increased from its 1927 level of 7.1 per cent. to 11.1 per cent., a figure which suggests a considerably higher volume of unemployment than existed in the United States or Canada during that year, and even somewhat higher than existed in Great Britain.

TABLE 31. NATIONAL INCOME AND UNEMPLOYMENT IN AUSTRALIA, 1929-1939

Fiscal year	National income produced[1]	Calendar year	Trade union unemployment[2]
	£A.million		%
1929	768	1928	10.8
1930	730	1929	11.1
1931	566	1930	19.3
1932	528	1931	27.4
1933	550	1932	29.0
1934	609	1933	25.1
1935	632	1934	20.5
1936	704	1935	16.5
1937	774	1936	12.2
1938	814	1937	9.3
1939	877[2]	1938	8.7

[1] Net national income produced at market prices. Source: J. G. CRAWFORD and Colin CLARK: *The National Income of Australia* (Sydney and London, Angus & Robertson, 1938), p. 60. [2] Official estimate. [3] Source: *International Labour Review*, Vol. XXXVIII, No. 3, Sept. 1938, p. 420; Vol. XLI, No. 6, June 1940, p. 635.

Recovery set in relatively early in Australia, and was speedy and sustained. In 1937 unemployment (as indicated by trade union

returns) was lower in Australia than in any of the six countries analysed in this Report, and Australia suffered but a slight recession in income and employment during 1937-38. This relatively rapid and strong recovery has aroused much interest in Australian recovery policy.

Factors Complicating Australian Recovery Policy

Several features in the Australian economic situation of 1929 need to be brought out. In the first place, the expansion which occurred during the 'twenties had been based to a large extent on external factors. Prices for Australian export goods were high, and the terms of trade were developing favourably to Australia. Moreover, throughout the period there was a steady inflow of overseas loans, amounting on the average to some £30 million a year (against a national income of about £700 million a year). By 1929, interest on foreign debts constituted 19.2 per cent. of total payments abroad, or 6.1 per cent. of total production. In other words, if we regard the normal return on capital in Australia as having been 6 per cent. (not a high figure for Australia in the 'twenties), it would mean that the foreign debt was equal in value to the whole capital structure of the country. Since Australia was exporting some 25 per cent. of its total output, including 77 per cent. of its wool and 67 per cent. of its wheat, its dependence on external income was great. London balances were an important part of the domestic credit structure, and it was their high level during the 'twenties that provided the basis for domestic credit expansion.

Secondly, Government expenditure, both on recurrent services and on public works, had grown steadily during the 'twenties. Much of the public works expenditure had been on what were popularly regarded as "unproductive" projects. Towards the end of the 'twenties, moreover, governments were allowing their current budgets to run into deficit, encouraged by the apparent ease of overseas borrowing.

Thirdly, industry was depending more and more for its development on the tariff and other forms of assistance. The cost of this development was throwing an increasing burden on unsheltered export industries, on which Australian prosperity so largely depended at this time.

Fourthly, the Australian internal price structure had, since the war, remained high, and was out of step with movements of prices in Britain, the United States and other countries. This relative price differential could be maintained because of the tariff, high export prices, and overseas borrowing — but it again left the unsheltered export industries in a vulnerable position.

Fifthly, the general level of wages was rising, partly on account of adjustments of the basic wage by the Arbitration Court, and partly as a result of the automatic adjustment of wages to the rising cost of living as measured by the official index of retail prices.

The Background of Public Investment Policy

The Australian depression was precipitated by a heavy fall in export prices and a sudden cessation of overseas loans, resulting in a direct fall in national income by £70 million. This immediate loss of income had repercussions arising from the process effects of the original decline in spending power. It led very quickly to a crisis in the balance of overseas payments, a loss of revenue for governments at all levels, and a marked rise in unemployment. It was not immediately realised that a protracted period of depression lay ahead, and the measures that were taken early in the depression were designed to meet a temporary difficulty which was expected to disappear in the following year. Gold reserves of the private banks were acquired by the Commonwealth Bank and were freely exported. Some imports were prohibited and the duties on others were greatly increased. The exchange rate was maintained at a level that seriously over-valued the currency, and an exchange pool was established to guarantee the service on external debt. In view of later developments, Professor Copland terms this a "fallacious early policy"[1], as it used up external reserves and increased the difficulties of exporters, without doing anything to correct the fundamental ills of the economy.

As the external situation continued to deteriorate, a more fundamental solution had to be sought. Public opinion was convinced that the root cause of the failure both of Australian credit in London and of the confidence of Australian businessmen lay in the unbalanced condition of budgets, and that the fundamental condition of recovery was a reduction of Government expenditure. All parties were agreed in this respect, but differences developed as to the other economic measures which should accompany this reduction. The visit of Sir Otto Niemeyer, sent by the Bank of England to examine the Australian financial position, added strength to these convictions. At a conference with the Australian Loan Council in August 1930, Sir Otto stated, in part:

> The characteristics of the budget position are that the Commonwealth and nearly all the States have had budget deficits largely unprovided for except by temporary methods of finance; the accumulated deficit of the Commonwealth

[1] D. B. Copland: *Australia in the World Crisis* (Cambridge, Cambridge University Press, 1934), pp. 50 *et seq.*

alone is £6,500,000, to which must be added the accumulated deficits of the States . . . Australian credit is at a low ebb; on a 6 per cent. basis in Australia itself and rather more abroad. It is, in fact, lower than that of any of the other Dominions, not excluding India, and even lower than that of some protectorates.[1]

The deflationary influences of a policy designed to maintain the exchange rate at parity with sterling were nevertheless so great as to provoke a number of proposals which centred round expansion of the note issue and of central bank credit.[2] The labelling of these proposals as inflationary, and the uncompromising opposition to them from the banking system, was sufficient to secure their rejection.

The economists urged a "middle course". Their proposals were designed, firstly, to confine the loss of income to the original amount by distributing the loss equitably and preventing secondary repercussions from the original decline in spending power; and secondly, equilibrium having been achieved, to secure an expansion of economic activity by means of an expansion of credit.[3] Their recommendations embraced the following six points[4]:

(1) Reduction of real wages of about 10 per cent.;

(2) Graduated supertax on income from property, to average 10 per cent.;

(3) Commonwealth Bank to buy and sell sterling exchange at a premium of not less than 20 per cent.;

(4) An announcement by the trading banks that advances would be available on all sound security;

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[1] Quoted in E. O. G. SHANN and D. B. COPLAND: *The Crisis in Australian Finance, 1929-31* (Sydney, Angus & Robertson, 1931), pp. 19-21.

Confronted with such an attitude towards financial policy both at home and abroad, it was not surprising that the Premiers' Conference at Melbourne in Sept. 1930 included the following among its resolutions:

> That the several Governments represented at this Conference declare their fixed determination to balance their respective budgets for the financial year 1930-31, and to maintain a similar balanced budget in future years. This budget equilibrium will be maintained on such a basis as is consistent with the repayment or conversion in Australia of existing internal debt maturing in the next few years.

[2] The most authoritative of these proposals was that put forward by the Commonwealth Government. The Treasurer, Mr. E. G. Theodore, in a memorandum to members of the Federal Parliamentary Labour Party, explained the Government's monetary proposals for restoring the price level to that ruling from 1925 to 1929. He stated that it was intended "that the exchange rate should be allowed to go to a level commensurate with the disparity in the Australian price levels as compared with those overseas". The specific proposal enunciated by Mr. Theodore was the issue of £18 million fiduciary notes, of which £6 million were to be used for paying a bounty of 6d. per bushel on wheat, and £12 million for absorbing the unemployed on "useful and productive work".

[3] Chief parts were played by D. B. Copland, L. F. Giblin, L. M. Melville, E. O. G. Shann, and E. C. Dyason. Their various manifestos will be found set out in volumes of documents edited by D. B. COPLAND and E. O. G. SHANN, in particular, *The Crisis in Australian Finance, 1929-31, op. cit.*, and *The Battle of the Plans* (Sydney, Angus & Robertson, 1931). The full story of the Australian depression is set out in D. B. COPLAND: *Australia in the World Crisis, op. cit.*

[4] Cf. W. R. MCLAURIN: *Economic Planning in Australia, 1929-1936* (London, P. S. King, 1937), p. 59.

(5) Commonwealth Bank policy to be directed towards the maintenance of stable prices;

(6) [Commonwealth Bank to] purchase Government securities and increase the note issue so far as should be required to sustain the cash reserves of the trading banks.

The final stage in the development of policy for recovery was precipitated by advice from the Chairman of the Commonwealth Bank to the Chairman of the Loan Council, on 2 April 1931, that the Bank would not provide assistance to the Commonwealth and State governments beyond a figure that would be reached in two months' time. The Loan Council was forced to appoint a subcommittee to consider action to secure balanced budgets. That subcommittee co-opted four economists, and the Report of this, the Copland Committee, laid the basis of the "Premiers' Plan", which was finally adopted.

The Committee's terms of reference were strictly confined to recommendations to secure budgetary equilibrium. The economic merit of its plan was that this made the imposition of cuts in Government expenditure and increases in taxation conditional on the full acceptance of the concept of equality of sacrifice. Wages had already been cut by the Federal Arbitration Court and the State tribunals were slowly following this lead. The exchange rate had already depreciated by 30 per cent. on sterling. Of the economists' original proposals for equality of sacrifice, there remained to be achieved only the reduction in property incomes.

The Loan Council decided on a voluntary conversion of internal debt, on the basis of a 22½ per cent. reduction of interest, to be accompanied by a simultaneous reduction of bank interest rates and mortgage rates. With this accepted, the Loan Council also agreed to reduce all adjustable Government expenditure by 20 per cent. and to secure additional revenue by taxation. The recovery that followed, however, was perhaps as much the result of rising export prices and expanding world trade as of the effects of these measures.

Public Investment

With such a background of financial policy, it is not surprising that deliberate expansion of public investment to stimulate economic activity played no part in Australian recovery policy. Such expansion was suggested, on a fairly meagre scale, by the "inflationist" school of thought, but it never received a significant measure of public support. The experience of the 'twenties had built up strong prejudices against public investment, which in that decade had averaged £40 million a year, or about 6 per cent. of national in-

come — a greater proportion of national income than was absorbed by American public investment during the 'thirties. Rightly or wrongly, the Australian public, and particularly the businessmen, regarded these public works as unproductive of anything except rising wages and material prices. Since average trade union unemployment never fell below 7 per cent. in any year, and since general prices were practically stable during the decade, public investment cannot have been excessive. But opposition to public investment was widespread, quite apart from the increasing concern about the growing burden of debt.

Moreover, public investment was financed by foreign as well as domestic borrowing and was accordingly associated, not only with the rise in the interest burden from 14.1 per cent. of taxation in 1919 to 18.5 per cent. in 1929, but with the difficulties with the balance of payments. The attitude that developed towards public investment in the 'twenties, and the concentration on budgetary disequilibrium in the discussion of the financial crisis, would have made it politically difficult for the governments to expand public investment when unemployment began to increase, even if they had wanted to.

The result was a drop in loan-financed investment between 1929 and 1932, which of itself tended to aggravate the downswing, and which was not even highly successful in balancing the various budgets before 1933, because the continued fall in national income prevented the higher tax rates from increasing revenues significantly, as table 32 shows.

The Commonwealth Labour Government fell shortly after the adoption of the Premiers' Plan, but it was followed by a Conservative Government pledged to implement the same Plan. The new Government was not enthusiastic about public works, and declared that they would be confined to spheres that did not compete with private enterprise.[1]

Some of the States, particularly New South Wales and Queensland, did press for an expansion of public works but they were steadily opposed by the Commonwealth Government. Effective expansion of public works did not take place until recovery was well under way, and the recovery after 1932 cannot be attributed to public investment policy. Continued pressure from organised

[1] The Prime Minister, Mr. LYONS, in a broadcast address on 8 Nov. 1933, said:

> The Commonwealth Government has always taken the view that there are definite limits to the capacity of Governments to provide full-time work and, further, that unemployment cannot be permanently eased by a policy of relief schemes of this kind . . . The work provided would be largely of an unproductive and temporary nature, and at the conclusion of it those who had been so employed would again be relegated to the unemployed. (W. R. MCLAURIN, *op. cit.*, pp. 101 *et seq.*)

TABLE 32. INDICES OF AUSTRALIAN FISCAL POLICY, 1929-1939

(£A. million)

Item	Fiscal year										
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Commonwealth Government											
Current account:											
Revenue	74.9	77.1	69.6	71.5	73.5	73.9	77.4	82.2	82.8	89.5	95.1
Expenditure	77.2	78.6	80.3	70.2	70.0	72.6	76.7	78.6	81.5	86.0	94.4
Surplus or deficit	−2.4	−1.5	−10.8	+1.3	+3.5	+1.3	+0.7	+3.6	+1.3	+3.5	+0.6
Loan expenditure[1]	8.2	5.3	2.0	3.4	0.6	0.5	1.9	1.7	2.7	4.5	3.6
State governments											
Current account:											
Revenue	118.9	105.3	108.5	104.1	108.5	105.3	107.4	111.8	118.3	125.4	124.9
Expenditure	122.0	124.3	124.1	124.9	116.4	112.3	110.8	114.2	118.7	125.4	128.8
Deficit	−3.0	−18.9	−15.5	−20.8	−7.9	−7.0	−3.4	−2.4	−0.4	—	−3.9
Local authorities											
Receipts:											
Revenue[2]	18.9	19.2	16.5	16.1	16.7	19.2	30.3	20.7	23.6	24.7	24.5
Loans, etc.	18.8	17.4	13.9	13.5	14.9	16.5	7.8	15.5	0.8	—	—
Total	37.7	36.6	30.4	29.6	31.6	35.7	38.1	36.2	24.4	24.7	24.5
Expenditure	37.1	37.8	30.2	28.2	31.2	35.1	38.2	36.9	25.2	25.0	24.7
New borrowing	8.1	6.7	1.4	1.7	1.1	2.9	3.1	4.7[3]	8.4[3]	7.4[3]	5.6[3]

Source: COMMONWEALTH BUREAU OF CENSUS AND STATISTICS: *Official Year Book.*

[1] Total: debt retirement not deducted. [2] Including grants-in-aid from State governments. [3] Year ending 30 June of the next year.

TABLE 33. AUSTRALIAN PUBLIC INVESTMENT, 1929-1939

(*£A. million*)

Item	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Commonwealth Government[1]											
Public works expenditure:											
From loans	7.9	5.2	2.0	0.1	0.4	0.5	1.9	1.4	1.2	2.0	1.6
From revenue	0.3	0.2	0.01	0.8	0.9	1.4	1.0	3 3	4.3	3.5	6.6
Total	8.2	5.4	2.01	0.9	1.3	1.9	2.9	4.7	5.5	5.5	8.2
State governments											
Net loan expenditure on works, etc.[2]	31.5	24.2	12.5	6.2	10.0	14.5	18.6	18.8	15.6	13.8	13.3
Total loan expenditure[3]	*	40.7	23.5	15.2	19.8	21.9	27.9	29.7	26.1	*	*
Maintenance[3]	*	30.0	25.0	23.0	23.0	26.0	30.0	30.0	30.0	*	*
Total[3]	*	70.7	48.5	38.2	42.8	47.9	57.9	59.7	56.1	*	*
Commonwealth and State governments											
Public works expenditure through Loan Council[4]	44.2	29.5	14.1	9.2	10.3	14.8	19.7	24.7	20.0	*	*
Local authorities											
Public works expenditure[1]	26.0	25.7	19.2	18.2	18.9	22.8	25.6	25.4	17.1	16.9	16.5

Sources: [1] COMMONWEALTH BUREAU OF CENSUS AND STATISTICS: *Official Year Book.* [2] *Ibid.* Includes loans and grants to local governments, relief works, electricity, housing, soldier settlement, irrigation, agricultural bank, rabbit-proof fencing, etc. [3] Estimates of G. G. CRAWFORD and Colin CLARK, *op. cit.*, p. 37. [4] W. R. MCLAURIN, *op. cit.*, p. 180.

* Not available.

labour did lead to a small increase in public investment expenditure between 1932-33 and 1935-36, but the level remained far below that of the 'twenties (see table 33).

Thus, in Australia, public investment of all three levels of government followed a strong cyclical pattern. The Commonwealth and State governments cut their investment outlays drastically from (fiscal) 1929 to 1932, and in 1937 were still operating on a restricted scale as compared with the 'twenties. Public works expenditures of local governments were somewhat more stable, and by (fiscal) 1935 were virtually at their 1929 level; but their timing was nevertheless such as to amplify rather than offset fluctuations in private spending.

New Zealand

The great depression affected the New Zealand economy, like the Australian, through a drastic fall in the overseas prices of New Zealand's exports of primary products (see table 34). At the lowest point, in 1932, export prices were 47 per cent. below 1928 levels.[1] Other sectors of the economy suffered heavily as a consequence. The value of production dropped 34 per cent. between 1929 and 1932[2]; the number of unemployed increased from 2,895 to 51,549 during the 1929-1932 period[3]; and the aggregate of private incomes, which had stood at between £130 and £140 million in 1926[4], dropped to £101.2 million in 1934.[5]

The advantages of expanding public investment when private investment was lagging were understood in the early 'thirties, but the policy was apparently considered to be inexpedient at that time. Up to 1936, the Government pursued exactly the opposite policy, making drastic cuts in State expenditure, particularly public works expenditures. Wage and price reductions, new taxes and higher tax rates, reductions in interest rates on State loans, virtual cessation of overseas borrowing, and exchange depreciation were other measures taken. In terms of budget balancing and increased exports this

[1] *New Zealand Official Year-Book*, 1940, p. 803.
[2] A. H. TOCKER: "Recovery Measures in New Zealand", in *Economic Record*, Vol. XI, Mar. 1939, Supplement, p. 79.
[3] I.L.O.: *Year Book of Labour Statistics*, 1943-44.
[4] *New Zealand Official Year-Book*, 1940, p. 782.
[5] *Ibid.*, p. 783.

TABLE 34. STATISTICS RELATING TO THE NEW ZEALAND RECOVERY, 1929-1938

Year	Exports[1]	Imports[1]	Export price index[1] (1928 = 100)	(*a*) Government[2 3] expenditure	(*b*) Aggregate private incomes[2]	Col. (*a*) as percentage of col. (*b*)	Total bank deposits[1]	Notes in circulation[4]	Total public debt[2]	Retail price index[1] (1928 = 100)	Wholesale price index[1] (1928 = 100)	Effective wage-rates index[1] (males) (1928 = 100)	Total unemployed (males)[1]	Year
	£N.Z.million			£N.Z.million			£N.Z.million							
1929	54.9	48.7	96	29.9	*	*	57.6	6.4	264.2	99	100	100.3	2,895	1929
1930	44.9	44.3	76	31.4	*	*	56.4	6.2	267.4	97	97	102.7	5,318	1930
1931	35.0	26.5	59	31.3	*	*	53.6	5.8	276.0	90	91	103.0	41,431	1931
1932	35.6	24.6	53	29.8	99.1	30	52.9	6.0	281.9	83	88	102.1	51,549	1932
1933	41.0	25.6	53	24.8	91.2	27	57.6	6.2	282.6	79	91	103.8	46,944	1933
1934	47.3	31.3	66	26.8	101.2	26	63.4	6.8	302.8	80	91	102.8	39,235	1934
1935	46.5	36.3	66	27.2	106.4	26	61.5	7.6	280.6	83	95	101.5	38,234	1935
1936	56.8	44.3	74	28.8	124.6	23	65.2	10.4	282.6	86	96	108.9	36,890	1936
1937	66.7	56.2	86	37.3	157.5	24	66.8	11.7	287.7	91	103	111.1	*	1937
1938	58.4	55.4	79	42.9	173.3	25	65.0	13.1	290.2	94	104	112.6	4,757[5]	1938

Sources: *New Zealand Official Year-Book*; LEAGUE OF NATIONS: *Monthly Bulletin of Statistics*; I.L.O.: *Year-Book of Labour Statistics*.

[1] Figures apply to calendar years. [2] Figures apply to fiscal years. [3] Consolidated Fund plus Public Works Fund. [4] Figures for 1929-1933 are averages for the year, and apply to the Reserve Bank. The Reserve Bank assumed the note-issuing function in Aug. 1934, and trading bank notes ceased to be legal tender in Jan. 1935. [5] Excluding some 8,000 persons totally unfit for employment.

* Not available.

policy achieved some measure of success. The value of exports rose 35 per cent. between 1931 and 1934.[1] It failed, however, to bring about any substantial alleviation of the unemployment situation — in March 1935, 53,000 persons were still either out of work, or employed on works subsidised out of the Unemployment Fund.[2]

The Labour Government elected in December 1935 concentrated its greatest efforts on the problem of unemployment. The previous policy of sharply curtailing public expenditure was completely reversed. The new governmental policy called for an extensive programme of public works and housing, expansion of services by nearly all departments, increased social services, restoration of wage cuts, and guaranteed prices to farmers. Between 1935-36 and 1938-39, public investment expenditure rose from £7,691,000 to £24,719,000[3], an increase of 221 per cent.

Although the public investment programme was characterised by the increased use of current revenue to assist in financing public works, the major portion of the programme was financed by loans. From 1935 until 1939 the bulk of these loans was furnished through the London and Australian money markets, by increased deposits in the Post Office Savings Bank, and by Reserve Bank advances. By September 1939, the latter had risen from zero in 1936 to £15.6 million.[4] It was not until March 1939 that the Government made its first direct appeal to the public for loans, a sum of £4 million being raised for this purpose.

In the late 'thirties, the process of general economic recovery was well under way. By 1938, unemployment had been reduced to 4,757.[5] The aggregate of private incomes increased from £101.2 million in 1933-34 to £173.3 million in 1937-38. The value of exports reached a total of £58.4 million, and of imports £55.4 million, in 1938 (increases of 64 per cent. and 125 per cent., respectively, over the 1932 figures); export prices showed a rise of 49 per cent. during the same period. Effective (real) wage rates in 1938 stood 13 per cent. above the 1928 level.[6]

Of course, the recovery which set in after 1936 cannot be wholly attributed to public investment policy. A particularly strong stimulating effect was exerted by the phenomenal rise in New Zealand's export prices, and by the great expansion in the volume

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[1] *New Zealand Official Year-Book*, 1940, p. 236.
[2] L. W. HOLT: "State Finance in the Post-Depression Period in New Zealand", in *Economic Record*, Vol. XIV, No. 27, Dec. 1938, p. 221.
[3] L. W. HOLT: "Public Finance and Control of Investment in New Zealand", in *idem*, Vol. XV, Oct. 1939, Supplement, p. 65.
[4] *Ibid.*, p. 66.
[5] I.L.O.: *Year Book of Labour Statistics*, 1943-44.
[6] *New Zealand Official Year-Book*, 1940 and 1942.

of exports, which normally amounted to about 42 per cent., in value, of New Zealand's total production.[1] An important role was also played by social welfare expenditure, monetary policy, and the encouragement given to both the primary and the secondary industries. There can be little doubt, however, that the greatly increased expenditure on public investment, which in 1938-39 comprised approximately 13 per cent. of the aggregate of private incomes[2], made a vital contribution to the revival of the New Zealand economy.

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[1] A. H. TOCKER, *op. cit.*, p. 78.

[2] *New Zealand Official Year-Book*, 1944, p. 479; L. W. HOLT: "Public Finance and Control of Investment in New Zealand", *loc. cit.*, p. 65.

CHAPTER XIII

SWEDEN

Sweden had a relatively mild boom in the 'twenties and a relatively mild depression in the 'thirties. National income fell only 16⅔ per cent. from 1929 to 1933. However, the number of unemployed on relief reached 165,000 in that year, and trade union unemployment grew from 11 per cent. in 1929 to 24 per cent. in 1933 (see table 35). The contraction of income and employment was less severe than in the United States and Canada, but Sweden nevertheless faced a genuine depression in the 'thirties. Moreover, in Sweden's case, the relative stability of income and employment was to a large extent a result of judicious economic policy. Considering the dependence of its national income upon exports, the collapse of purchasing power in its principal markets, the process effects that a shrinkage of exports would inevitably have on income and employment in such a country as Sweden, and the unfortunate Swedish experience in the downswing of 1920-1922, when trade union unemployment rose to 34 per cent., it seems likely that the

TABLE 35. NATIONAL INCOME AND UNEMPLOYMENT IN SWEDEN, 1929-1939

Year	National income[1] (Kr. million)	Unemployment[2]	
		Applications for relief (thousands)	Trade union percentage[3]
1929	8,220	10.2	10.7
1930	8,137	13.7	12.2
1931	7,387	46.5	17.2
1932	6,841	113.9	22.8
1933	6,840	164.8	23.7
1934	7,784	114.8	18.9
1935	8,295	61.6	16.1
1936	9,107	35.6	13.6
1937	10,274	18.2	11.6
1938	10,704	16.2	11.8
1939	11,510	17.6	10.0

[1] Source: *1941 års statsverksproposition:* "Inkomsterna", App. B, p. 2; *1945 års statsverksproposition:* "Inkomsterna", App. B, p. 10. [2] Source: I.L.O.: *Year-Book of Labour Statistics*, 1943-44, p. 59. [3] The figure for 1939 includes agriculture.

world depression of the 'thirties would have had more cataclysmic effects on Sweden if the economic policy pursued there had been less propitious.

Elements of Swedish Recovery Policy[1]

Public investment was a substantial part, but by no means the whole, of Sweden's depression policy. Other important elements were:

(1) Early abandonment of the gold standard, and subsequent exchange control. Exports did not increase, the gold value of exports being no better maintained than in gold bloc countries; but the krona price of exports *was* increased, and consequently exporters' profits grew. The result was that, although depression deepened in 1932, the intensification was considerably less than in other countries.

(2) Controlled monetary expansion, with the object of raising wholesale prices without raising retail prices or wage costs, thus stimulating industry and maintaining consumption. Direct action was concentrated upon the raising of the wholesale prices. The Government counted upon natural lags to prevent wages and retail prices from rising as quickly. The means used to accomplish this end were reduction of interest rates, and open market purchases of securities, foreign exchange and gold.

Although trade remained essentially free, the Government departed from the traditional "single tariff" policy to the extent of giving special protection to agriculture. The form which this protection took was, for example, to require millers to use a certain quota of home-grown flour, and to give them a monopoly of the import of bread grain. Sugar beet producers were at first assured of sales of certain amounts at fixed prices, and later given an import monopoly like that of the millers. Livestock and dairy prices were also supported in similar ways.[2]

It is interesting to note that the Government at no time attempted to veil its operations in secrecy, and this fact accounts for much

[1] Cf. Bertil Ohlin: "Economic Recovery and Labour Market Problems in Sweden", in *International Labour Review*, Vol. XXXI, Nos. 4 and 5, Apr. and May 1935, pp. 408-511 and 670-699.

[2] The Swedish co-operative movement was probably not a highly significant factor in recovery. Only 10 per cent. of the wholesale trade and of manufacturing for domestic consumption was handled co-operatively — less than in England. It would seem that the co-operatives have been remarkably effective in smashing monopolies. It does not follow, however, that "it is a fair assumption that these same forces served to temper the depression in Sweden", or that in tending to prevent "monopoly concentration of capital and industry" they also prevented "all the self-destructive elements inherent in the rapid concentration of wealth" (Marquis W. Childs: *Sweden, The Middle Way*, New Haven, Yale University Press, 1936, p. 158.)

of its success. Business, assured of a stable exchange rate, easy money, Government financial assistance, and no uncontrolled inflation, became optimistic; and an optimistic business world can contribute a great deal to economic recovery.

There was one important element in the recovery of Sweden that was not the result of Swedish policy at all. Improvement in conditions in 1933 led to an increase in exports and in the export surplus. The value of commodity exports rose 21 per cent. in 1933, while imports rose only 19 per cent. A visible passive balance of 58 million kronor was turned into an active balance of 78 million. During 1934 the trade balance was even more satisfactory. The iron ore, engineering, paper, pulp, and timber industries benefited thereby.

Public Investment

Sweden is the country whose public investment policy of the 'thirties most closely conformed to the "ideal" pattern. As may be seen from table 36, both the central Government and the local authorities increased their expenditures during the downswing, made their biggest outlays in 1933, and tapered off their expenditures as national income rose and unemployment diminished. The central Government reduced its "actual" surplus in the fiscal year 1930, ran "actual" deficits from (fiscal) 1931 to 1934, and produced surpluses again in 1935 to 1938. Capital investment also increased during the depression years, although it was reduced in (fiscal) 1931 and the peak was not reached until (fiscal) 1935.

Sweden was fortunate in having available in 1929 an Unemployment Commission which had been in operation ever since 1914, and which had consequently accumulated considerable experience in dealing with unemployment as well as possessing a complete organisation. This Commission had already done good work in the depression of 1921-1922, when it had provided direct unemployment relief, vocational training for young workers, and relief or "reserve" works. During the 'twenties, unemployment remained a sufficiently serious matter to maintain interest in the problem and to keep the Unemployment Commission functioning.

When unemployment began to increase again in 1929, the Commission first sought to stem the tide by means of the same three devices. Both State reserve works and State-aided municipal reserve works were carried out. The conditions previously elaborated for reserve works were still applied:

(1) The works were to be of benefit to the State, a municipality, or some public institution, and economically or culturally justified.

TABLE 36. INDICES OF SWEDISH FISCAL POLICY, 1929-1940

(Kr. million)

Item	Fiscal year										
	1929–30	1930–31	1931–32	1932–33	1933–34	1934–35	1935–36	1936–37	1937–38	1938–39	1939–40
Central Government											
Ordinary budget:											
Tax receipts	590	598	595	604	616	690	760	854	943	1,105	1,369
Investment income	165	164	119	117	134	147	167	201	170	187	249
Other income	23	21	23	20	33	66	66	95	126	150	231
Total revenue	778	783	737	741	783	903	993	1,150	1,239	1,442	1,849
Interest on debt	86	82	81	92	99	98	93	92	88	91	98
Other expenses	624	658	697	724	779	924	883	888	1,006	1,258	2,416
Total expenditure[1]	710	740	778	816	878	1,022	976	980	1,094	1,349	2,514
Surplus (+) or deficit (−)	+68	+43	−41	−75	−95	−119	+17	+170	-145	+93	−665
Capital budget:											
Productive investments	40	37	67	81	64	80	73	117	121	196	366
Unproductive investments[2]	7	6	13	15	105	208	85	23	25	33	42
Total	47	43	80	96	169	288	158	140	146	229	408
	Calendar year										
	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Local authorities											
Expenditure[3]	711	727	789	790	769	739	790	845	919	995	1,095

Sources: Central Government: RIKSRÄKENSKAPSVERKET: *Årsbok. Budgetredovisningen.* Cf. Ernst WIGFORSS: "The Financial Policy during Depression and Boom", in *Annals of the American Academy of Political and Social Science*, May 1938, pp. 26, 32, 34, 35. Local authorities: *Statistisk årsbok för Sverige.*

[1] For years 1929-30 to 1937-38: "actual expenses" + "unproductive capital investments"; for 1938-39: "total operating budget expenditures". [2] Excludes debt retirement and funding. [3] Total expenses *less* State grants.

(2) They were to be of such a character as to warrant the expectation that they would not be undertaken by private industry at least within a period of three years. The idea of this provision was that reserve works were to add to the work opportunities within the community.

(3) They were to be of such a nature that wages would constitute a large proportion of their total costs, so as to give employment to the largest possible number of workers.

(4) They were not to require special skill and the work was to be capable of being performed by average workers.

(5) They were to be preferably of such a nature as to permit their being carried out also in winter, when unemployment reaches a peak.

(6) They were to be such as to allow for expansion and contraction in accordance with changes in the extent of unemployment.

Wages paid on reserve works ran 15 to 25 per cent. below the current rates of the locality.

The kinds of works executed during the 1929-1933 downswing are shown in table 37.

TABLE 37. SWEDISH RESERVE WORKS BY TYPE AND COST, 1 JULY 1929-30 JUNE 1933

Type of work	Cost in kronor	Percentage of State contribution
State reserve works — total	92,861,000	82.1
Roads	73,140,000	78.3
Forestry	6,530,000	89.9
Canals	5,325,000	99.9
Railways	3,941,000	100.0
Aerodromes	1,477,000	100.0
Other works	2,488,000	
State-aided municipal works — total	36,989,000	43.5
Roads	11,902,000	41.3
Ground improvements, ditching, etc.	9,930,000	49.8
Drinking water supply and sewerage	6,191,000	32.8
Aerodromes	2,301,000	54.8
Harbours	705,000	43.2
Other works	5,960,000	

Source: Based on tables in SVENSKA HANDELSBANKEN: *Index*, Supplement, June 1938, p. 4.

In addition, some 6,000 youths were engaged in voluntary labour and vocational training courses organised by the Commission.

During the downswing, the scale of public work activity was small, and it was financed chiefly out of revenues. There was a growing body of public opinion, however, that was influenced by the economic analysis of such Swedish economists as G. Myrdal, B. Ohlin, D. Hammarskjöld, and A. Johansson. Late in 1931, these four economists were invited by the Unemployment Commission

to prepare statements on employment policy, and when a new Government came to power in 1933, their recommendations were largely adopted.[1] As a result, the concept of annual balancing of the budget was replaced by a concept of balancing the (ordinary) budget over the business cycle as a whole, and a new and enlarged programme of "emergency works" was undertaken which was largely deficit financed. The composition of this programme for the years 1933-1935 is shown in table 38.

TABLE 38. TYPE AND COSTS OF PUBLIC WORKS IN SWEDEN, 1933-1935

Type of public works	Number of enterprises	Total costs	
		Amount	Percentage of total
		Kr. thousand	
Emergency works[1]			
State advance emergency works	133	7,595[2]	
Municipal advance emergency works	365	47,213	15.7
Other works			
Communications:			
Elimination of level crossings	91	10,536	
Bridges	42	8,553	
Harbours	43	8,314	
Paving	23	4,000	
Permanent-way improvements	15	962	
Road construction	56	9,556	
Total communications	270	41,921	13.9
Agriculture and forestry:			
Rationalisation of manure deposits	8,652	6,272	
Drainage	1,846	16,950	
Ditching	9,434	10,209	
Grain elevators	6	1,809	
Rafting channels	392	2,657	
Afforestation	17,838	15,100	
Road making in newly developed areas	115	710	
Total agriculture and forestry	38,283	53,707	17.8
Workers' small holdings	2,780	13,900	4.6
Government buildings	58	31,186	10.4
Housing construction	39,609	113,543	37.6
Total	81,498	301,470	100.0

Source: *Index*, Supplement, June 1938, p. 10.

[1] "Emergency works" is the translation of *beredskapsarbeten* (literally, "preparedness works") given in Gustav MÖLLER's article, "The Unemployment Policy", *in Annals of the American Academy of Political and Social Science*, May 1938, p. 50. They refer to projects carried out under the 1933 legislation and with current open-market wage rates. [2] Not included in total.

[1] Cf. Lewis LORWIN: *National Planning in Selected Countries* (National Resources Planning Board, Technical Paper No. 2, Washington, 1941), Part III: "Stabilisation Planning in Sweden, 1929-1939".

Since 1933, the Swedish budget has been divided into current and capital accounts. The capital budget of course balances automatically, although it consists of public investments almost wholly loan financed. Prior to 1933, Swedish budgetary policy required annual balancing of the ordinary budget, and limited the capital budget to "productive" investments. Since then, the aim has been to balance the ordinary budget over the business cycle as a whole, deliberately under-balancing it in depresssion years, and carrying 20 per cent. of any deficits as a charge against the next year's budget; and public investments of all kinds may be included in the capital budget. It is interesting to note that the surpluses obtained in the ordinary budget from 1935-36 to 1938-39 exceeded in value the deficits incurred from 1931-32 to 1934-35.

Standard wages were paid on the new emergency works. During 1933 to 1935, average earnings on State reserve works were 4 to 5 kronor per day, on State-aided municipal works they were 5 to 6 kronor, while on emergency works they were around 9 kronor.

The effects of the change in policy can be seen in table 39.

TABLE 39. SWEDISH PUBLIC WORKS EXPENDITURES, 1929-1938[1]

(*Kr. million*)

	1930	1931	1932	1933	1934	1935	1936	1937	1938
Volume									
Relief works	2.8	2.5	10.0	25.0	60.0	55.0	32.0	22.0	14.0
Emergency works	—	—	3.0	3.0	108.0	86.9	42.1	47.4	49.0
State enterprises	20.3	30.0	53.2	47.8	78.8	62.3	56.8	52.6	76.9
Total	23.1	32.5	66.2	75.8	246.8	204.2	130.9	121.9	139.9
Financing									
Current account	689	719	761	814	720	770	867	967	1,092
Capital account:									
Loan	34	50	73	104	269	312	120	116	126
Revenue	27	17	22	16	7	11	22	16	29
Total	750	786	856	934	996	1,093	1,009	1,099	1,247

Source: G. WILSON: "Budgetary Policy", in *Democratic Sweden* (Editors, M. I. COLE and Charles SMITH, London, G. Routledge & Sons, 1935), p. 88.

[1] Fiscal years.

Public works expenditure increased only slightly from (fiscal) 1930 to 1933, with relief works or investment in State enterprises accounting for nearly all of the increase. With the change of Government in 1933, public works activity rose sharply, and was concentrated mainly in non-income yielding ("unproductive") development works. However, it was not until early 1934 that

the change in policy made itself felt[1]; and after 1934, outlays on all three categories of public works shrank as income and employment expanded.

During the last half of 1934, over 100,000 persons were employed directly or indirectly on relief or emergency works. In that year, reported unemployment averaged 115,000, and the highest figure recorded was 190,000.[2] Thus at their height, public works (excluding investment in State enterprises) absorbed between 55 and 90 per cent. of the registered unemployed, which would be a somewhat lower proportion of total unemployment. If investment in public enterprises is added in, and a "leverage coefficient" of 2 or more assumed, it could be stated that public investment in Sweden after 1933 was *enough in itself* to have eliminated unemployment.

The large number of State enterprises in Sweden afforded an opportunity for substantial public investment not open to all Governments. As shown in table 39, except in the deepest depression years, public investment in State enterprises was the largest single category. The income from productive investments exceeded the interest burden on the entire public debt in every year (see table 36). The availability of such large public enterprises, into which new funds can be poured, clearly facilitates the policy of timing public investment to offset depressions.

Conclusion

Public investment cannot be considered the sole cause of the remarkable Swedish recovery after 1933. Public investment never reached 5 per cent. of the national income; indeed, relative to national income, Swedish public investment in depression was no greater than the American, and somewhat less than the Australian, public investment in prosperity. Moreover, the enlarged programme of public works after 1933 did not become effective until recovery was already under way. Exchange depreciation, reduction of interest rates, and open-market policy, and, above all, the rise in export prices, probably contributed more to the initiation of recovery than public investment.

In conclusion, it seems safe to state that the rise in Swedish public investments from 1929 to 1932, as contrasted with the fall in other countries, is one reason why Sweden weathered the downswing relatively well; and no doubt the energetic public investment programme after 1933 is one explanation of the rapid and sustained recovery.

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[1] Cf. Bertil Ohlin, *loc. cit.*, p. 681.
[2] Gustav Möller, *loc. cit.*

PART V

THE TASK AHEAD

INTRODUCTION

In this final Part, brief outlines of the public investment plans of various countries are presented. The discussion must be regarded as exemplary rather than exhaustive. Unquestionably, interesting and important work is being done in the public investment field in many countries for which adequate information was not available at the time of writing; China, France, and the Netherlands are notable cases of such omission. Unquestionably, too, several of the countries covered have projects under way which have not been made the subject of public statements. However, the purpose of this Part is less to provide an encyclopaedia of current post-war planning — which in any case would be rapidly outdated — than to indicate the general attitude of Governments today towards public investment policy, and so to provide a basis of comparison with the 'thirties.

The contrast is striking. The general principle of counter-cyclical timing of public investment is now accepted by the Governments of virtually all countries. Most countries have also taken steps to implement the application of this policy in the post-war period. World thought and action in the public investment field has moved a long way in the right direction since 1933. On the other hand, the degree of preparedness for using public investment to combat unemployment varies considerably from country to country, and some countries still have a long way to go. It is hoped that the information in the following pages on the measures taken by certain countries will be of use to all countries in planning their public investment policy.

CHAPTER XIV

AUSTRALIA[1]

Public investment and public enterprise[2] have always been important factors in the Australian economy. Since there is still great scope for developmental expenditure in Australia, public investment should contribute effectively to the realisation of the Commonwealth Government's announced aims of full employment, rising standards of living, and improved capital equipment. Extracts from the White Paper on *Full Employment in Australia*[3], tabled in the Commonwealth Parliament on 30 May 1945, bring out the extent to which the Government is relying on public expenditure in its social policy.

The policy outlined in this paper is that Governments should accept the responsibility for stimulating spending on goods and services to the extent necessary to sustain full employment . . .

When employment tends to decline, resources can be usefully employed by the decision to embark upon developmental work and to improve the collective capital equipment of the community. It is economical to use resources that would otherwise be idle in these forms of capital construction, and thus to maintain the economy in full employment. This differs from the policy that has frequently been adopted in the past, especially during the depression of the 'thirties, when public works were reduced at a time when all other expenditure was falling. These reductions were the result of a belief that reduced spending was the appropriate policy when revenues were falling as a result of a decline in income. If total expenditure is to be maintained, and the resources of the community fully employed, this policy should be reversed. Government policy will then be directed to building up the nation's capital equipment, and stimulating the general level of consumption. At the same time private spending will be stimulated by a higher level of economic activity, a sustained demand for goods and services and stable conditions for the maintenance of private capital expenditure.

If Governments maintain a continual close review of current and prospective trends in spending and the level of activity in the economy, they will be ready to act as soon as a decline threatens. The earlier they do so, the smaller will be the increase of public and private expenditure required . . .

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[1] This chapter is essentially a revision of an article in *International Labour Review*, Vol. LII, No. 4, Oct. 1945, pp. 352-379: "The Planning of Public Investment in Australia", by R. I. DOWNING.

[2] In Australia, important public utilities such as rail, tram and omnibus services, electricity, abattoirs, and so on, are normally provided by public authorities.

[3] F. 2834, *op. cit.*

Australia is fortunate in that there is a great range and diversity of fields in which public expenditure on capital equipment and development is required, covering many sections of industry and types of labour, and extending all over Australia . . .

Careful and detailed advance planning will be required if public capital expenditure is to play a significant part in our development, and particularly if it is to play a main part in stabilising the level of total expenditure, so as to maintain employment and avoid inflation . . .

If private spending seems likely at any time to expand to a level where it may prevent the completion of urgently needed public capital projects, the Commonwealth and State Governments should seek means by which they can determine which capital projects, public or private, are the more important to the community, and accord priority to those projects.

The formulation and execution of economic policy in Australia is hampered by the federal structure of the Commonwealth, and by the extensive limitations imposed by the Constitution on the sphere of activity of the Federal Government. Australia is fortunate, therefore, in having a well-established and respected machinery for consultation on matters of economic policy between the Commonwealth and the six State governments. The most important of these consultative bodies from the point of view of investment planning are: the Premier's Conference, which can discuss any matters of common interest; the Loan Council, which controls the borrowing programmes of the Commonwealth and of the six States; and the National Works Council, which co-ordinates the works programmes of the seven Governments.

The National Works Council is to be responsible for supervising the listing and planning of all Government and semi-governmental works undertaken anywhere throughout Australia. It has been in operation only since July 1943, and to understand the significance of its establishment, it is necessary to examine briefly the history of the Loan Council, which, before the war, was the only inter-State body that dealt with works expenditure.

The Loan Council

The Loan Council, set up in 1924 to eliminate competition between the seven governments for loan funds, was formally established as part of the machinery of government in 1927, as a result of a Financial Agreement between the Commonwealth and State governments, ratified by their parliaments and given legal status under the Constitution by a referendum. The Council consists of a representative of the Commonwealth Government with two votes and a casting vote, and one representative of each of the six States with one vote each, so that the Commonwealth needs the support

of only two States to make its will effective. No borrowings, including those to meet revenue deficits (but excluding Commonwealth borrowings for defence), can be made without its approval.

Most developmental expenditure in Australia is financed by loan. Moreover, when Commonwealth and State governments are unable to balance their budgets, they are dependent on borrowing to carry on their ordinary business of government. To the extent that the execution of Government policy is dependent on borrowing, the Loan Council can force the governments of Australia to conform to a common economic policy. This was amply demonstrated in the early 'thirties, when all the governments were forced to conform with the commonly adopted "Premiers' Plan" for recovery from the depression, because, unless they did so conform, they could not borrow the finance that was essential to enable them to carry on in those days of straitened revenues. (Currency and credit inflation was denied to them because it lay within a power reserved exclusively to the Commonwealth Government, which lacked a majority in the Upper House and so could not compel the Commonwealth Bank to adopt its expansionist policy.)

The Commonwealth (Labour) Government now in power has announced its belief in a policy of national development and full employment. The experience of the 'thirties suggested apparently that inter-State machinery additional to the Loan Council was required to carry out such a policy. The Loan Council, by its very nature, was forced to concentrate on financial aspects of public works. Its duty being to decide "how much can be borrowed at reasonable rates and conditions", it naturally placed in a secondary position an examination of the nature of the works proposed, and their usefulness in developing the country and employing available workers.

The experience of the depression, of the subsequent recovery, and of the war has everywhere forced a drastic revision of economic thinking. In Australia, one of the most significant wartime developments has been the changed approach to the problem of loan expenditure that was forced on the Loan Council by the pressure of war conditions. The Commonwealth Government insisted that, in view of the amount of loan money and productive resources needed for war purposes, the amount of money to be raised for ordinary works under the approval of the Loan Council must be reduced to a minimum. The reductions proposed by the Commonwealth Government were so severe that the Loan Council had to examine closely the economic and military significance of the actual works for which the various governments were seeking finance. For this purpose, a Co-ordinator-General of Works was appointed to exam-

ine proposed works and to embody those considered essential in programmes to be submitted to the Loan Council for approval of the borrowing required. Urgency and usefulness of works and availability of manpower and other resources thus become the determinants of loan expenditures.

The Establishment of the National Works Council

The influence of this new approach to public expenditure is already apparent in the establishment of the National Works Council, which is made responsible for supervising the listing and planning of all public investment undertaken anywhere throughout Australia, at least during the transition from war to peace. At a Premiers' Conference in July 1943 it was decided to establish this Council, which was to consist of one representative of each of the Commonwealth and State governments, with the Federal Prime Minister as Chairman in addition. The State and Commonwealth works programmes were to be submitted, through State co-ordinators, to the Co-ordinator-General of Works for collation and subsequent presentation to the National Works Council with his report on the programmes. The States agreed to make available all their resources to enable the Council successfully to achieve its purpose.

The fact that the membership of the National Works Council is substantially identical with that of the Loan Council makes the more significant this decision to establish a body which might be free of the financial considerations that confine the Loan Council. The Federal Treasurer said on 16 July 1943: "No estimate can be given even in broad terms of the money needed, but the only limit to the operation of Australia's internal economy after the war will be the availability of men and materials."[1]

The Work of the National Works Council

The National Works Council has met three times — in January and August 1944, and in August 1945 — and to each meeting the Co-ordinator-General has presented a report on progress achieved. Examination of these reports reveals the proposals and problems of the Australian governments in planning their post-war public investment programmes.[2] The Council's investigations and decisions are to cover all works, however financed, whether from

[1] For public statements on the establishment of the National Works Council, see *Digest of Decisions and Announcements and Important Speeches by the Prime Minister*, No. 61 (4613, Canberra, Commonwealth Government Printer, 1943).

[2] For the first report, the resolutions adopted at the first meeting, and other relevant material, see *idem*, No. 73; for the resolutions carried at the second meeting, *idem*, No. 87; and for the third report, discussions thereon, and the resolutions carried, *idem*, No. 106.

revenue, from accumulated or trust funds, or from new borrowings. Its scope is not to be confined to works requiring new borrowings to be approved by the Loan Council.

Initial Steps

The Co-ordinator-General held conferences with the State co-ordinators, who were to undertake preliminary co-ordination of works to be listed in their own States. The existing organisation whereby State and local agencies planned and carried out their own works was not to be interfered with. The Commonwealth Government, during 1945, set up its own Works Department, but this was to be the equivalent, not the superior, of the State governments' works departments, planning and executing only works required by the Commonwealth Government. The task of the National Works Council is simply to co-ordinate individual proposals in order that the national view may be brought to bear on problems of priorities, labour, and supplies for urgent works, and of timing to ensure the orderly absorption of resources as they become available.

It was agreed that the initial programme should embrace all maintenance and renewal works which had been deferred in consequence of the war, and new capital works of urgency and importance which the various administering authorities would wish to undertake on the termination of war. It was also proposed to secure, supplementary to the initial programme, preliminary information on works in three further categories: works the usefulness of which had already been decided and the execution of which should immediately follow completion of the urgent and important programme; large works already in preliminary stages of investigation; and long-range developmental projects considered worthy of examination.

The first task was the preparation of suitable forms and explanatory notes to be circulated to the various administering authorities. All individual works proposed, and costing more than £5,000, were to be described on separate forms, with priority to be indicated in three degrees of urgency. (Different sections of a single project which would take some time to complete — *e.g.*, a railway line — were to be classified according to the degree of urgency of each section.) The forms were sent to all Commonwealth and State government departments, semi-governmental bodies, municipalities, shires and road boards, numbering about 1,200 in all. Questions were asked concerning, among other things, the necessity for the work; the stage reached in planning the work, the time required to complete that planning to the point where work could

commence, and what extra staff was needed for the planning; man-weeks entailed for tradesmen, other skilled, and unskilled workers; type and quantity of each material and any special equipment required; the duration of the work; the cost for labour, materials, and other charges; and what combination of revenue, trust funds, and new borrowings was to be used to finance the work.

Works Proposed

In his first report the Co-ordinator-General stated that, from the rate at which programmes were being submitted, it would appear that works in the urgent and important class would total nearly £500 million — a programme which would take several years to complete on the basis of pre-war works of less than £100 million a year. Since these works would provide a reservoir more than sufficient to deal with any unemployment problem in the transition period, he recommended that the detailed planning of long-range developmental works should be left in abeyance. Preliminary consideration of long-term proposals would not, of course, be excluded.

He recommended that the Council should concentrate on an initial programme of urgent and important works, embodying sufficient work to occupy roughly two years of effort on pre-war standards of public works expenditure. The rate at which the works would actually be taken in hand would be determined by prevailing conditions. They might be completed in six months, or they might take two years. The programme would include only such part of long-term urgent and important works as could be completed within one or two years of the end of the war. It would be supplemented by particulars of the essential commitments entailed, especially where benefits could not be derived until the projects were completed, as in the case of dams and bridges.

The second report submitted interim proposals, which were brought up to date in the third report, presented in August 1945.

There were more than 5,500 separate proposals, prepared initially by the responsible officers of the appropriate administering authorities. The proposals had been dealt with by the State co-ordinators in the manner provided for in the Council's resolutions, and had then been transmitted to the Co-ordinator-General. All the proposals had been examined, tabulated, and summarised to provide the data embraced in the reports, and had been arranged to facilitate subsequent treatment up to the ultimate stage when specific authority would be given for each particular work to be commenced. The programme of urgent and important works sub-

mitted to the National Works Council, as of August 1945, is set out below:

	£ million
Priority:	
A	113.8
B	68.9
C	16.0
Total programme	198.7
Inescapable commitments	50.4
Grand total	249.1

Approximately 20 per cent. of these works are for deferred maintenance, the balance are new capital works.

Dissections of these figures according to the nature of the cost and the source of finance are available for all but £6.7 million of works which have not yet been fully analysed.

Nature of cost	£ million	Source of finance	£ million
Labour	79.2	Revenue	25.9
Materials	87.5	Trust or accumulated funds	20.7
Other	25.3	Borrowing	145.4
	192.0		192.0

The Council resolved to adopt, as a first instalment of a programme of works, the proposals covered in whole or in part by an "A" priority and which, including inescapable commitments[1], are estimated to cost £192.9 million — with the proviso that, after more comprehensive examination and agreement between the responsible government and the Co-ordinator-General of Works, it might be found preferable to place in a lower priority classification, or to defer, or to eliminate, any particular proposal. Provision was also made for addition of programmes from authorities which had been unable to submit programmes; and for the Co-ordinator-General, on the initiative of the government concerned, or on his own initiative, but in either case only after agreement with the government concerned, to substitute for certain of the accepted proposals others which might be regarded as of greater urgency. The programme is continually added to, revised and adjusted in accordance with these resolutions. The Co-ordinator-General states in his third report that there are still some authorities that have not been able to submit programmes, and that provision must also be made eventually for local authorities' works programmes totalling less

[1] Commitments arising from the "A" programme are £79.1 million. This figure is larger than commitments arising from the whole programme, as some of the "A" commitments are included in the "B" and "C" programmes.

than £10,000, for which no return was asked. The Council resolved that these authorities should complete as urgently as possible the preparation of their programmes.

It is estimated that the "A" priority programme of £113.8 million will require 6,600,000 man-weeks of labour, or 126,000 man-years. This figure apparently covers only direct, on-site labour requirements.

Rate of Taking Works in Hand

As the third meeting of the Council was held a few days after the surrender of Japan, some consideration, although it could be but cursory, was given to the rate at which works should be undertaken. The Council, by resolution, adopted the principle that it should be the objective to ensure that works were undertaken by the Commonwealth, States, and other constructing authorities on a scale sufficient to ensure that, together with housing and other fields of activity, employment should be available for discharged service men and others seeking employment. To this end an early conference of Commonwealth and State officers should be held to report to the Council on the scale of works expenditure required for this purpose; on the receipt of this report, the Council should recommend to the governments concerned the scale of works expenditure which should be undertaken and should recommend to the Loan Council that loan moneys required to carry out this programme should be provided; pending the receipt of this report, an early start should be made on work in the "A" priority groups for which finance was available.

Supplementary Works Programme

At each of its meetings, the Council has found it necessary to leave in abeyance the preparation of the supplementary programme which had been envisaged from the beginning of the Council's operations. Adequate resources for detailed planning were not available, under war conditions, even for the "urgent and important programme", and the Council considered it unwise to dissipate the efforts of the limited number of technical officers available by the compilation of detailed data for a long-range programme which would not in any case be put into effect for some time. In his third report, however, the Co-ordinator-General did state that he had initiated a preliminary listing, particularly of national works and large developmental projects which might require examination by more than one State, or jointly by the Commonwealth and State governments concerned. This would not involve detailed estimates

or elaborate investigations and would be useful in drawing early attention to such important works. The Council, by resolution, endorsed this action.

Avoidance of Delay in Commencement of Works

Throughout the reports to the Council and discussions thereon, great emphasis has been placed on the need to have works ready to begin as soon as resources become available. At its first meeting, the Council resolved that, prior to the submission of the States' programmes to the Co-ordinator-General of Works, the proposals should have been endorsed by the respective State governments; financial responsibility between the State governments and public bodies concerned should have been determined; the administering authorities should have indicated their agreement to accept the financial responsibility entailed; necessary steps should have been or would be taken without delay to secure any necessary legislative approval or endorsement by such parliamentary bodies as might be customary; and necessary steps should have been or would be taken without delay to acquire any land on which the execution of a project was dependent.

Planning and Composition of Programme

Similarly, great emphasis has been placed on the need to complete plans of the works themselves to the last detail of preparedness for commencement of work. The main limiting factor was the availability of administrative and technical resources for this planning. Special efforts were made to secure the release from the armed forces of the relatively few men, but up to July 1945 only 22 of the 252 applications made had actually been satisfied. As a result, progress in complete planning was disappointing. On the other hand, about 40 per cent. of the whole "A" programme was completely planned, and with many of the works a great deal of progress had been made and only a few months' further planning was needed. There would also be some carry-over of works actually in progress at the end of the war, some of which could be accelerated so as to absorb more men and materials if they were available. With the end of the war, the Prime Minister undertook that 95 per cent. of the technical men required for planning would be quickly released. In any case the Council agreed that the progress already made, however disappointing, had removed a great deal of the anxiety felt by all concerned over the problem of organising continuity of work with the conclusion of the war. The Council was in possession of a considered and sponsored programme of work, of substantial

magnitude when regarded as an initial contribution to the requirements of post-war works. The projects were widely distributed over the Commonwealth and were greatly diversified in character.

The main types of work included in the "A" priority programme, and the extent to which they are completely planned to the point where the work is ready to commence, are shown in the following table:

TABLE 40. MAIN TYPES OF WORK IN AUSTRALIAN "A" PRIORITY PROGRAMME AND EXTENT TO WHICH WORKS ARE PLANNED

Type of work	No. of proposals	Value	Value of work ready to commence as percentage of total value
		£ million	%
Buildings	1,318	29.0	23
Roads and streets	859	11.7	51
Water and sewerage, mains and pipes	373	11.5	44
Dams, reservoirs and weirs	152	10.2	40
Rail and tram tracks	97	8.8	73
Fixed plant[1]	253	8.8	23
Transport rolling stock	72	5.9	93
Forestry plantations	231	4.3	66
Aerodrome runways	23	3.8	3
Movable plant	119	3.6	31
Dredging and foreshore works	184	3.5	49
Bridges	175	2.8	52
Aerial lines	125	2.7	60
Wharves and berths	45	2.3	23
Water and sewerage canals and channels	43	2.2	72
Land improvement	48	1.1	27
Total		121.1	41

[1] This represents only a proportion of the total fixed plant required, as in many cases its cost has been included in the buildings, dams and other structures in which it is to be installed.

Labour and Materials

Concern has also been expressed by the Council that requirements of labour and materials should be known well in advance in order that execution of the programme might be related to resources becoming available, and to provide some guide to the manpower and material supply authorities in releasing resources. Both men and materials were likely to be in short supply for some time, and it was important, therefore, that works authorities should be prepared to absorb quickly what resources were available.

Manpower requirements have been subdivided into tradesmen, other skilled, and unskilled. Partial figures which have been published suggest that manpower requirements are approximately

20 per cent. tradesmen, 30 per cent. other skilled, and 50 per cent. unskilled.

Extensive information has been obtained as to materials required for the programme. For £96 million of the "A" priority programme of £114 million, the materials required are as follows:

TABLE 41. QUANTITY OF MATERIALS REQUIRED FOR PROGRAMME VALUED AT £96 MILLION

Material	Units	Quantity
Blue metal, sand, gravel, lime, cement, bitumen	Tons	8,343,000
Timber — structural, joinery and flooring, weatherboards, poles, piles, sleepers, building boards	Sq. ft.	309,182,000
Steel — structural, reinforcing, sheet, rails, paper, castings	Tons	349,000
Bricks	No.	244,726,000
Glass	Sq. ft.	3,219,000
Steel windows	Sq. ft.	782,000
Iron — galvanised sheets, wrought and cast iron pipes	Tons	76,000
Paint	Gallons	560,000
Electrical and telephone cable, conduit and wiring	Lin. yds.	8,457,000
Asbestos cement sheet and fibrous plaster	Sq. yds.	2,550,000
Concrete and asbestos cement paper	Tons	86,000
Stoneware and earthenware pipes and conduits	Lin. ft.	3,940,000
Roofing tiles	No.	4,263,000
Floor and wall tiles	Sq. yds.	100,000
Coal tar	Gallons	2,210,000
Asphaltic oil	Gallons	784,000
Lead	Tons	5,000
Wire and wire mesh	Tons	3,000
Copper wire and cable	Tons	3,000
Insulators	No.	780,000

The Co-ordinator-General suggested to the Council, in order that arrangements might be made for the provision of the required men and materials, and to make available the information necessary to secure an equitable distribution between States, that the State co-ordinators should advise the Co-ordinator-General of the works which were being put in hand, and give over-all estimates of the materials and men likely to be required, pre-planning continuously not less than six months ahead.

Advance Ordering

In his reports, the Co-ordinator-General has emphasised the difficulty that will be encountered in securing supplies of materials and of highly specialised plant, machinery, and equipment when they are required. The Council resolved that the various admin-

istering authorities should be encouraged to place advance orders for such supplies where the delivery period was likely to be protracted — provided that before substantial orders were placed, they should be referred to the Co-ordinator-General for examination in relation to the specific works proposals and for confirmation that the advance order was justifiable. The Council also decided that wartime equipment, particularly earth-moving equipment, portable huts, and messing equipment, that was being disposed of by the armed forces should be examined to ascertain its usefulness for works projects.

Priorities

The Co-ordinator-General stated in his report that many adjustments had been made, and more would have to be made, in priority classifications submitted by the various administering authorities. If this were not done, scarce materials would be allotted to works that could not possibly be undertaken immediately after the war ended, when those materials, if allotted elsewhere, would permit available labour resources to be set to work immediately. The Council discussed at some length the question of who should determine priorities. The State Premiers were concerned that the Co-ordinator-General should not have power to determine what priority should be allotted to works. It was made clear that it was the National Works Council which exercised that power, although the Council would naturally consider advice received from the Co-ordinator-General on that issue. It was, however, emphasised that it would be essential for the National Works Council to look at the works programme as a whole, and to change priorities so as to avoid inconsistency in that programme arising, for instance, from excessive demand for scarce labour and materials and deficient demand for available labour and materials. In such cases, priorities would have to be adjusted in the light of the relative importance of various proposals to national needs; in particular, high priority would have to be given to some defence and developmental works, even though they might be in areas at present sparsely populated. The National Works Council, and not the open market, was the proper place to fight out the relative priorities of similar works, requiring similar labour and materials, in different States and in different areas. The Prime Minister said: "The National Works Council has been set up, not to impair the sovereignty of the States, but to aid the States by making it possible, through planning, to obtain the things necessary to carry out their programmes."

The question of housing raised special difficulties with regard to priorities in the programme of urgent and important works. This

programme includes all housing except the small amount incidental to particular projects, such as houses for staff.[1] At the third meeting of the Council there was protracted discussion of the relative priorities to be given to housing, the shortage of which is causing grave difficulties in the Australian economy, and to these urgent public works. The State governments were extremely jealous of their rights to determine their own priorities. It was finally resolved that, in the selection of actual works to be taken in hand, construction authorities should, as far as possible, avoid works which would compete unnecessarily with the housing programme, and should give a high priority to engineering works associated with housing, such as sewerage, water services, drainage, roads, forestry, hospitals, and schools.

Co-ordination

Consideration has also been given to various aspects of co-ordination arising from the works programme. Thus, at its second meeting, the Council resolved to urge on all administering authorities concerned with land settlement and irrigation schemes the necessity of a prior examination into the marketing position, and the formulation of methods of control best calculated to obtain the maximum benefit from the expenditure of public moneys; and that administering authorities should review the possibilities of planning electricity and water projects on a regional basis before the adoption of the individual schemes of this character included in the approved programme. At its third meeting, the Council resolved that each State should undertake to advise the Commonwealth of plans for large development in the production of individual primary products so that the Bureau of Agricultural Economics might advise the States of information concerning market prospects and plans of other States for expansion of the same forms of production.

The Council also gave some consideration to the desirability of establishing a National Electricity Advisory Council to economise and make more efficient the supply and future development of electric power. The matter has been listed for further discussion at the next meeting.

International Labour Conference Recommendations

At the third meeting of the Council, the Commonwealth Government proposed to the Premiers of the six States that Australia should accept the three Recommendations of the International Labour Conference on public works planning, namely, the Public

[1] Housing proposals are discussed below.

Works (International Co-operation) Recommendation, 1937, which calls, among other things, for the supply of statistical information about each country's public works; and the Public Works (National Planning) Recommendations, 1937 and 1944. The Commonwealth Government pointed out that there should be little difficulty in meeting the requirements of the first Recommendation, in view of the present practice of submitting a co-ordinated plan of public works to the Loan Council and the National Works Council through the Co-ordinator-General. The formal adoption by these bodies of the policy outlined in the Commonwealth Government's White Paper on *Full Employment in Australia* would enable Australia to subscribe also to the Recommendations on national planning of public works.

The Council resolved to consider the matter at its next meeting.

Finance

There has been little public discussion of how public investment is to be financed. The section on "Public Finance" in the White Paper reaffirms that public investment will be varied where necessary to maintain full employment, and then simply states that the necessary finance will be obtained from three possible sources — taxation, borrowing from the public, and borrowing from the central bank — according, in effect, to the prevailing economic circumstances.

It has been customary in Australia to include in annual Government budgets only those few works which are normally financed from revenue. A large part of public investment is financed from loans, as is reasonable in a relatively young country, and is excluded from budgets. The White Paper states that taxation should be the main source of revenue, as it can be levied so as to secure more equitable distribution of incomes, and as it does not create a problem of interest-bearing debt. The limitations on the extent to which taxation can be used are recognised, but it is expected nevertheless that taxation will be at such a level that the yield from incomes when the economy is fully employed will cover at least all expenditure on current items, including the maintenance of assets, and that it should also make some contribution towards public investment. The taxes will be designed to have the least possible restrictive effect on incentive and on efficiency.

With regard to borrowing, the Paper points out that borrowing from the public, being voluntary, avoids some of the disadvantages of taxation, but leaves a debt on which interest has to be paid; and that borrowing from the Commonwealth Bank, if carried beyond the limit set by the availability of men and resources, would gravely

threaten the real incomes of workers and lower income groups, and would result in conditions so unstable that full employment could not be maintained.

Since the initial programme consists of works which would have been undertaken in any case, the Commonwealth Government will accept financial responsibility only for its own section of the programme. Each State government, with its associated local and semi-governmental authorities, will accept financial responsibility for each State's section of the total programme. The local and semi-governmental authorities normally receive grants and loans from their State governments. For instance, in 1936-37, of the total revenue of local authorities throughout Australia of £24.4 million, £7.1 million was received from Government grants. Of total loan raisings by local and semi-governmental authorities of £11.8 million, £2.3 million was borrowed from governments. The question of "the determination of principles to govern the financial relationships between State governments and local and semi-governmental authorities in regard to post-war works to be undertaken by those authorities" has been brought up in the National Works Council. It was agreed that if any member of the Council considered that some uniform principle should apply throughout the States to that relationship, he should embody his views in a memorandum to the Co-ordinator-General of Works, who would send it on to the States.

For works supplementary to the initial programme, the Commonwealth has already indicated its willingness to discuss the division of financial responsibility. It has been reasonably generous in its financial assistance to the States in the past, and there is every reason to believe that it will continue to be so in the future. At the third meeting, the Co-ordinator-General reported that no memoranda had been received from State governments dealing with the determination of principles to govern the financial relationship between State governments and the local and semi-governmental authorities. However, it was known that at least two State governments had arranged scales of subsidies for approved local government works, and that the matter was receiving consideration in some of the other States.

During discussions the Premier of Victoria stated that his government intended, in approved cases, to subsidise municipal works on a £ for £ basis. He suggested that this scheme could be greatly extended and strengthened if the Commonwealth Government co-operated with the State governments in a subsidy scheme. The Prime Minister promised that the Commonwealth Government would examine the proposal.

Achievement of the National Works Council

As can be seen from the foregoing account, a complete programme of all urgent and important public works, however financed, was prepared and ready to be undertaken as soon as men and materials were available. These have been examined and co-ordinated by a central authority. A concentrated, centrally directed effort has been made to secure the complete planning to the final stage of preparedness for commencement of the works. The progress in this respect has not been altogether satisfactory as a large number of the skilled technicians and administrative personnel have been actively engaged in war work. However, a substantial amount has been achieved, and the need to make every effort to carry the planning further has been brought forcibly to the notice of all administering authorities throughout the country, which are constantly being encouraged to complete the job. The release of the extra resources needed to complete the planning is in progress. The materials and equipment needed were largely known, and the appropriate authorities have proceeded to obtain them. The types of labour needed have been investigated, and the information has been made available to the demobilisation authorities and to manpower officers as a guide in their releases of personnel from the services and war industries. Arrangements have been made to ensure that all legal formalities, financial arrangements, and land purchases which have to be completed before works can commence are completed.

Machinery has been established which brings the State governments into the formulation and execution of a nation-wide works policy. The nation's representatives and administrators have before them a complete list of works to be done, and of the men and materials required. A system of priorities has been established which, if observed, will permit works to be taken in hand in an orderly way as resources become available. The priorities have been confirmed after responsible consideration by the National Works Council which includes the Premiers of the six States. The States should be prepared to give considerable weight to these decisions on the national level, particularly as the Commonwealth Government will be able to back up the agreed basis of priorities through its control of imports and surplus defence equipment, and more doubtfully, through its possible control of material supplies.

Other Public Investment Planning

The Australian Government apparently expects that there will be a shortage of resources available for works needed for some years

after the war. It is apparently expected that the "A" priority programme of urgent and important works cannot be completed in less than three years. The "B" and "C" priority sections of this programme, the inescapable commitments of the whole programme, and the already foreseen development works which will be included in supplementary programmes are expected to maintain a pressure on available resources for some time after that. The White Paper on *Full Employment* expects that the attainment and maintenance of full employment in Australia will itself tend to stabilise private investment in Australia, and moreover will provide an environment favourable to the success of Government policy to encourage stability of private investment. Higher and more stable employment abroad, in combination with domestic measures to stabilise the incomes of primary producers, will tend towards greater stability in domestic employment arising from export income. The Australian Government therefore places less emphasis on the need to vary public investment so as to offset fluctuations in private investment and net spending from overseas, and more emphasis on stabilising public investment at a high level, than does, for instance, the British Government in its White Paper on *Employment Policy*.[1] In particular, the last paragraph of the quotation from the Australian White Paper given at the beginning of this chapter states that, if the resources available for the production of capital goods are inadequate to meet all the demand, for public and private investment, "the Commonwealth and State governments should seek means by which they can determine which capital projects, public or private, are the more important to the community, and accord priority to those projects".

The success of the Government of Australia in maintaining full employment and in fostering national development will depend largely on the extent to which the National Works Council can carry out its policy of an orderly and co-ordinated programming and planning of public works. The Council and the Office of the Co-ordinator-General of Works have been created ostensibly to cover only the war and immediate post-war years. But there is no constitutional reason why they should not continue indefinitely, and there should be no political opposition as long as the Council works well from the point of view of the State governments. These governments have in fact much to gain from the continued existence of the Council and the Co-ordinator-General. The State governments have always considered that the Loan Council has unduly restricted their expenditures.

The National Works Council in future will be able to determine

[1] Cmd. 6527 (London, H. M. Stationery Office, 1944).

whether works suggested by the States or Commonwealth are useful in developing the national estate, and in giving employment to men who would otherwise be left idle. In the face of a recommendation from the Co-ordinator-General of Works, accepted by the National Works Council, that a programme of works was useful and that the resources to carry out that programme were available, it is not likely that the Loan Council, composed of substantially the same membership, would refuse finance for the works.

Commonwealth and State government officials believe that there are enough useful works to be done in Australia to use up all resources likely to be available to building and construction industries for many years. Rural development plans call for enormous expenditures on water supplies and irrigation schemes, on sewerage, on housing, and on the extension of electricity systems. Most cities need substantial rebuilding programmes, and a complete overhaul of their transport systems. Hospital and school buildings are seriously inadequate, and many of those that exist will have to be scrapped as soon as resources are available for their rebuilding. Railway gauges have yet to be unified, and a recent report by Sir Harold Clapp on only part of this problem recommends an expenditure of £76 million extending over 10 or 11 years.

It is realised by the Commonwealth Government that machinery is required to search out the public works projects which might be considered for incorporation in a public works reserve. For this task, it is hoped that it will be possible to use machinery which is being established in the States through the Regional Planning Organisation. It is intended that surveys of the basic resources of each region will be undertaken through these regional planning authorities under the general guidance of State governments. From these surveys, suggestions will come for the conservation or utilisation of the natural resources of the various regions. The Co-ordinator-General and his State Co-ordinators will then determine which of the suggestions warrant comprehensive examination. They will arrange for their detailed investigation and subsequent consideration by the National Works Council, with a view to their complete planning in advance, so that they can be held in readiness for execution as soon as business activity threatens to decline. There is no shortage of work to be done. No judgment can yet be made as to whether that work can be so organised as to be available as a public works reserve, capable of quickly and substantially offsetting variations in other forms of employment.

CHAPTER XV

BELGIUM

Belgium, long a highly industrialised country, has a long tradition in the use of public investment to offset unemployment. To meet the crippling crisis of 1848, the Government embarked upon a large-scale programme of railroad construction, the direct and indirect effects of which did much to eliminate the widespread unemployment of that period. When the depression of the 1930's began, the Belgian Government proposed another large works programme; but because of legislative and administrative delays, the actual course of Belgian public investment during the great depression was cyclical rather than counter-cyclical.

Determined to avoid a repetition of this experience in the post-war period, officials of the exiled Belgian Government devoted much time and effort during the war to the preparation of a post-war public investment programme. Several studies of the principles and problems of post-war planning were made, with special emphasis on the timing and financing of public investment as a device for counteracting cyclical fluctuations in employment. In the autumn of 1943, a document entitled *Travaux publics et politique de conjoncture* was published, which formulated general principles of public investment policy very similar to those developed in the present report.

Public Investment Policy

In August 1945, these principles were incorporated in a Legislative Order. In the report with which the Ministers of the Interior and of Public Health submitted the Legislative Order to the Regent, they summarised the underlying principles of the new legislation. Referring to the studies undertaken during the war, the report stated that "in the field of public works, these studies unanimously recommended to the Government a business cycle policy which would guarantee to the country a more stable level of employment, by an expansion and contraction of investments of

public authorities, according to developments in the economic situation".[1] It pointed out that if this policy was to be effective, it must be applied not only at the central government level, but in particular to the local projects of subordinate governments; and that integration of policy at all levels of government required new legislation.

Central Government control over the investment policy of subordinate governments, the report continued, will be exercised through subsidies. The programmes of the subordinate administrations will be submitted through the governors of the provinces to the Minister of Public Works, who will determine, together with other members of the Cabinet, the share of cost to be covered by subsidies of the central Government. The Government will make a firm commitment for projects in the normal budget, or "first list", and a guarantee in principle for the contingency budget, or "second list". The first list, according to the Legislative Order, will consist of projects to be carried out in the next budget period; and the second list will consist of fully planned projects, subject to timing and held in reserve for utilisation as a compensatory device. Public health projects, however, are to remain under the jurisdiction of the Minister of Public Health.

The new legislation simplifies the process of planning public works and obtaining subsidies, thus conferring a new flexibility upon the execution of public investment programmes, and thereby increasing their effectiveness for the stabilisation of employment. This reform, according to the ministerial report, "is urgent, because unemployment, despite wartime devastation, which calls for a considerable volume of reconstruction projects, is still a matter of grave concern to the public authorities. It is desirable, pending the resumption of industrial activity, that public works should be undertaken in the most active manner, in such a way as to absorb unemployment, on the one hand, and, on the other, to create conditions favourable to economic recovery."[2]

The ministerial report emphasised the necessity of organising appropriate administrative agencies at all levels of government, with the requisite technical personnel in each province. The importance of co-ordinating all programmes at the various levels of government was also stressed. The report pointed out that except for the power to determine for the subordinate administrations the timing of all or part of the projects in the "second list", the prerogatives of the subordinate governments were left unaffected by the new legislation.

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[1] *Moniteur belge*, 24-25 Sept. 1945, p. 6078.
[2] *Ibid.*, p. 6080.

Machinery of Planning

The preamble of the Legislative Order states that "the circumstances of the war have made it necessary and urgent to associate the provinces, the communes, and the other subordinate administrations in a national policy of public works and to submit these administrations to a special procedure for the planning and execution of their public works programmes". Section 1 of the Order requires all subordinate governments to submit to the governor of their province before 1 March of each year its two lists of works, one for the next budget year, and one constituting its reserve. The programmes will then be forwarded to the Minister of Public Works, who is required, in consultation with other interested Ministers, to determine before 1 June of the same year which projects in both lists should be subsidised. The Minister can also transfer projects from the first list to the second.

The Ministers concerned also determine, whenever the economic situation justifies it, which subordinate administrations shall carry out all or part of their projects in the second list. A Royal Order, made on the recommendation of the Ministers concerned and countersigned by the Minister of Public Works, will indicate those projects which the provinces will execute, the order in which they will be executed, and the time at which they are to be executed. Other Orders will lay down the principles according to which the governors of the provinces will proceed with respect to projects of the communes, associations of communes and public assistance boards. Still other Royal Orders will fix for each category of projects in both lists the level of subsidies and the methods of allocation.

For each category of projects, an upper and lower limit to the share of total costs to be borne by the State will be set. Within these two limits the subsidy will be fixed in terms of the financial situation of the beneficiary authority, and of the general importance of the projects, by agreement among all the relevant departments of the central Government. The governors of the provinces will then determine the level of subsidy for each particular project in the first list, and for those projects in the second list that are to be executed in the next budget period.

To prevent delays in respect of finance, a new system of payment for public works is laid down in section 8 of the Order. The subordinate administration will begin by meeting immediate obligations from its own share of total costs; but it may, if expedient, borrow these sums from the Municipal Credit Organisation (*Crédit communal*), a special Government bank set up expressly for the purpose of giving financial assistance to the municipalities. For the share

to be covered by the subsidy of the central Government, the local administration presents to the governor loan certificates ordering payment to the creditor concerned. After stamping these credit instruments with his visa, the governor forwards them to the Credit Organisation. The bank, acting on behalf of the central Government, discounts the certificates, crediting the "subsidy" account of the subordinate administration, and debiting a special Treasury account set up for this purpose. Since the Credit Organisation derives its own resources from the sale of its own Government-guaranteed obligations, this system means that public investment is financed by loans, unless the central Government deliberately offsets the loans and discounts of the Credit Organisation by surpluses in the general budget.

Part II of the Order is concerned with the provision of technical personnel for the execution of this programme. It requires each province to set up a technical service under the governor, assisted by an advisory council consisting of one permanent deputy and three delegates of the communes chosen by the permanent members of the communal councils. The provinces, communes, associations of communes, and public assistance boards can obtain from the governor the assistance of this technical service for the planning of their public investment programmes. The subordinate governments are required to prepare plans for their projects before submitting them for subsidy. If the subordinate administrations do not have an appropriate technical service or an engineer or architect satisfactory to the governor, they can entrust the planning of their programme to an architect of their choice but satisfactory to the governor, or to the technical service of the governor. This service can itself prepare the programme, or turn it over to a qualified technician.

Part III of the Order deals with the co-ordination of projects. It requires all the subordinate governments and public authorities in war-damaged areas to submit to the governor of the province, in a form defined by Royal Order, a master plan covering all projects undertaken in that province except for national defence, and normal conservation and repair projects. The local administrations of other areas have been invited to prepare similar master plans. The Government will defray the costs of planning for war-damaged areas, and part of the costs for other areas. The plans will be examined by an advisory commission with the governor as president, and consisting of the permanent deputy and the communal delegates of the technical service of the governor, the provincial and regional chiefs of the technical services of the central Government, and other permanent or temporary members appointed by the

governor. The local administrations and other organisations may be invited to send one or two delegates to sessions at which projects concerning them are to be examined. If discrepancies are discovered, divergencies of opinion arise, or integration of local services cannot be achieved, the governor may call upon the competent authorities to make the decision in the last resort. Once the master plans are approved by the central Government, they become legally binding.

The projects of the central Government itself will be carried out by the Ministries of Public Works, Communications, Health, and National Defence. The programmes of these Ministries are designed so as to conform to the general planning of the country, and are to be timed in a counter-cyclical manner.

The way has been cleared for a special capital budget by an inventory of Government assets undertaken before the war, showing these assets as the counterpart of the national debt. Once such a system of accounting is adopted by the State, the subordinate governments could follow suit.

CHAPTER XVI

CANADA

In Canada, the importance of building a reserve of public investment projects as a bulwark against post-war unemployment has been recognised at all three levels of government. As in other federal countries, the complexities of intergovernmental financial and constitutional relations have proved a barrier to the translation of accepted principles into a fully prepared programme. Nevertheless, some progress has been made by the central Government, and several of the provinces and municipalities have prepared a shelf of public investment projects.

Federal Policy

Federal action in the field of post-war planning dates from September 1941, when an Advisory Committee on Reconstruction was set up. Among the subcommittees later established were several dealing with various aspects of public investment: housing and community planning, publicly financed construction projects, and conservation and development of natural resources. The reports prepared by this Committee and its subcommittees laid considerable stress on the importance of preparing in advance an adequate reserve of carefully planned public investment projects. One of the recommendations of the Subcommittee on Publicly Financed Construction Projects, for example, was that "a carefully planned programme of publicly financed projects must be developed as an integral part of Canadian reconstruction policy since, if a deep depression threatens to arise, prompt action would be necessary. The most significant contribution that such projects would make towards Canadian reconstruction is that they would provide additional employment opportunities at the very moment when serious unemployment threatened to arise because other sections of the reconstruction programme were not being carried out rapidly enough. If such projects are carefully planned, however, they can also contribute to the social welfare of the community and to its ultimate enrichment."[1] The Committee recognised that "post-war

[1] Advisory Committee on Reconstruction: *Final Report of the Subcommittee on Publicly-Financed Construction Projects* (Ottawa, King's Printer, 1943), p. 8.

planning" was a matter of years, and that the secondary post-war depression might have more serious effects on employment than the transition. The importance of flexibility of the public investment programme, to permit proper timing, is stressed in several of the reports. In addition to making a general study and recommendations, the Committee conducted a model regional planning survey of the Ganaraska watershed.

The Government's views on public investment policy have been presented in two major documents, the White Paper on *Employment and Income*[1], and the *Proposals of the Government of Canada* to the Dominion-Provincial Conference on Reconstruction.[2] The White Paper makes the following statement regarding public investment:

> It has not been possible during the war to accumulate a large shelf of ready-planned projects. The war programme has necessarily taken precedence and the engineering staffs of all governments have been denuded by war demands. Particularly has it been impossible to embark on the planning of new types of comprehensive projects of far-reaching extent. On the other hand, all governments, Dominion, provincial and municipal, have a considerable backlog of public projects of the normal sort for maintenance and expansion, which have been deferred during the war years. Some of these are fully planned and others are capable of rapid planning. Governments will wish to carry out these projects as soon as labour and materials are available once more.
>
> In addition, the Dominion Government will give consideration to methods of stimulating provincial and municipal governments to carry out necessary surveys and draw the plans for useful public projects, in defined categories, to be executed when they are needed to stabilise employment, probably some time after the Japanese war has ended.
>
> Further the Dominion Government proposes to press ahead as rapidly as possible with surveys, aerial and other mapping and explorations on the results of which a new and forward-looking agreed programme for the development and conservation of natural resources must be built. The co-operation of the provincial governments and of the industries engaged in the use of our natural resources will be sought.
>
> Beyond this, the Dominion will undertake its own deferred projects in those localities in which the decline of war contracts or other circumstances have made available labour, which can be employed on such projects and for which the locality gives promise of permanent employment. The Government will invite provincial and municipal governments to co-operate in following similar programmes.[3]

With respect to long-range public investment policy, the Paper makes the following pronouncement:

> The deliberate use of public investment expenditures as a permanent instrument in employment policy has to be undertaken experimentally. There is, as

[1] DEPARTMENT OF RECONSTRUCTION: *Employment and Income. With Special Reference to the Initial Period of Reconstruction* (Ottawa, King's Printer, Apr. 1945).

[2] *Op. cit.*

[3] *Employment and Income, op. cit.*, p. 15.

yet, no working model even in other countries. It will be necessary to frame policy to fit the facts of the Canadian economy and administer it in accordance with our Federal Constitution. The Government believes, however, that there will be wide agreement on making a substantial beginning along two lines:

(1) The undertaking of advance planning of all necessary and desirable Dominion projects so that there may be available a "shelf" of soundly planned projects, ready for execution when prospective employment conditions make it desirable to increase public investment expenditures. Since in the inter-war years the public investment expenditures of provincial and municipal governments have been much greater than those of the Dominion Government, it will be an essential part of such a policy that advance planning on the part of these governments should be encouraged, and, without interfering with provincial or municipal decisions in respect of the direction of their own expenditures, co-operation should be sought on the timing of such expenditures;

(2) The implementation, in co-operation with the provinces, of a new Dominion policy of expenditures on the development and conservation of natural resources. In view of the rapid wartime depletion of natural resources, provision for such expenditures is urgent. While some of these expenditures must be continuous, a substantial portion of them may be varied according to employment and income levels. The resources of the farm, forest, mines, fisheries and rivers are basic to Canadian development and prudent expenditure on their conservation and development will be true investment expenditure yielding valuable returns. The returns will be greatly enhanced if the development and conservation of the resources of particular areas can be co-ordinated.[1]

The Dominion Government's proposals to the Dominion-Provincial Conference on Reconstruction, convened in August 1945, are more specific regarding public investment policy. The proposals stress the importance of community planning as a basis for efficient public investment, and while the Government points out that community planning lies within the provincial sphere of jurisdiction, it states that "the Dominion is prepared to support in principle the establishment of a community planning institute for Canada, or some similar body, for the co-ordination of planning and action in this field on a continuing basis".[2] The Government also expresses its willingness to assist the provinces in training personnel for housing and community planning programmes.[3]

The proposals point out that "a large part of the foundation of an economy of high employment and welfare must be new investment". The Government plans for investment are summarised as follows:

(1) By such methods as taxation reform and maintenance of income to encourage private investment, and

[1] *Ibid.*, p. 16.
[2] DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION: *Proposals of the Government of Canada, op. cit.*, p. 14.
[3] *Ibid.*, p. 14.

(2) By preparing in advance to develop the nation's resources, add to its capital equipment, and raise its conditions of living to provide employment to the extent possible when private employment is slack.[1]

The Dominion accepts responsibility for projects required by international agreements, all projects in the territories outside provincial jurisdiction[2], and basic surveys and research essential to national development. The Government offers to assist the provinces with the provision of new access roads to undeveloped mining and forest resources, with the trans-Canada highway crossings, and airports, and with education and public health.

One of the most interesting sets of proposals are those concerned with measures to facilitate the counter-cyclical timing of public investment. First, with regard to its own projects, the Dominion Government proposes:

That investment policy be used to mitigate or offset deficiencies in export income or private investment expenditure according to the principles of —

(*a*) using public investment programmes to strike as near the source of deficiency as possible; and
(*b*) providing expenditures through established channels in which the deficiencies of income and investment are most severely felt.[3]

To implement this policy, the Government is making provision that:

(i) All basic survey and research work on which an expanded resources programme depends be gone ahead with as rapidly as possible;
(ii) Advanced planning of projects be carried out on a sufficiently large scale to have an adequate reserve at all times for the timing purposes of the Dominion public investment programme;
(iii) Appropriate arrangements be made to make available sufficient technical and other staff to carry out the survey and planning work;
(iv) Arrangements among departments be completed in advance, site acquisition be provided for (perhaps by taking options), and other preliminary negotiations involving property rights and agreements with other governments or with private agencies be completed;
(v) Necessary authority be given to carry out the above arrangements at an early date and appropriations for execution of projects be made beforehand in order that contract letting may be proceeded with promptly, when necessary.[4]

The Government stresses the desirability of provincial and local governments adopting similar timing policies to those of the Dominion. It proposes to encourage advance planning of subsidiary governments by lending technical assistance, by providing factual

[1] *Proposals of the Government of Canada, op. cit.*, p.21.
[2] The Yukon, Northwest Territories, Indian Reserves, and other Dominion-owned lands.
[3] *Ibid.*, p. 25.
[4] *Ibid.*, p. 26.

information, and by grants-in-aid. More specifically, the Dominion offers the provinces grants under the following conditions:

(*a*) A maximum limit of planning grants for each province;

(*b*) Definition of projects to exclude maintenance and minor work and non-postponable projects;

(*c*) Requirement of provincial recommendation of municipal projects submitted for a planning grant;

(*d*) A planning grant equal to *x* per cent. of the planning and engineering cost, one half or other portion of which would be paid when the cost was incurred and if the project were registered for the timing assistance noted below, and the remaining part when and if the project was executed in a period approved by the Dominion.[1]

The proposals then add:

. . . The Dominion proposes to adopt a policy of attaching control of timing wherever it is paying grants for public projects (*e.g.*, mining, roads or technical schools) if the project can be reasonably postponed. The Dominion further proposes to pay a specific grant of 20 per cent. of the cost of provincial and municipal public investment projects if

(*a*) they have been accepted and registered by the Dominion authority as fully planned projects prior to the time of execution;

(*b*) they are executed in a period designated by the Dominion authority.

In accepting projects for registration, the Dominion authority would ascertain that the project was fully planned and ready for execution. All projects for which planning grants had been given would be accepted. Certain projects would be rejected on the ground that

(*a*) they were maintenance, repair, local improvement or other non-postponable projects representing current work not genuinely submitted for timing; or

(*b*) they were public utility projects or of a commercial nature competing with private industry.

In the timing of projects the Dominion would concern itself only with employment considerations, leaving to the provincial and municipal governments the direction of their own investments, subject to the Dominion having discretion to determine in any one year the total value of projects, if any, on which it would pay timing grants within any province. It would also of course authorise the grant for projects whose execution would extend over several years.

Partly, perhaps, because public investment is mainly a provincial and local affair in Canada, the Dominion Government had little or no works beyond the "idea" stage when the war ended. A Department of Reconstruction had been set up, including in its organisation a Director of Housing, a Co-ordinator of Public Projects and a Co-ordinator of Resources Development, but the Department had no funds for the execution of actual projects. The Department has conducted a model town-planning survey at Smith Falls; it

[1] *Ibid.*, p. 26.

arranges with the appropriate agencies for release of materials for federal, provincial, and local public investment projects in areas considered by them to present serious problems of unemployment; otherwise the Department's function is mainly advisory. The Department of Public Works had collected a reserve of federal projects, but on V.J. Day the reserve consisted of less than 100 projects ready for contract, and involved a total outlay of less than $15 million — as compared with war expenditures ranging around $4,500 million annually when the war ended in Europe. The Departments of Agriculture, Mines and Resources, Fisheries, and Transport, and the Canadian National Railways, also had some plans for new projects, but few of these were ready for contract when the war ended.

Provincial Planning[1]

The provincial governments have prepared post-war public investment plans of their own, but few provinces were in a position to provide a large volume of employment when the war ended.

Alberta

As early as 1943, the Alberta Government began to make plans for post-war public investment. At that time the Alberta Postwar Reconstruction Fund was established, and an initial sum of $1 million was voted for use in post-war projects. A further $1 million was voted in 1944. In the same year the Alberta Power Commission was created, with authority to operate a provincial system of hydro-electric power generation, transmission, distribution, and sale, and to acquire existing properties.

In April 1945, as a result of an investigation of the provincial economy and its post-war problems, the Alberta Postwar Reconstruction Committee, in co-operation with the Research Council of Alberta, presented a Final Report to the Legislature. Among the subjects covered were housing, reafforestation, land policy, irrigation, industrial expansion, and municipal works projects. A new Department of Economic Affairs, established by an Act of the 1945 session, will be responsible for implementing the recommendations of the Report.

The Premier has also submitted a proposed $250 million programme to the Dominion House of Commons Committee on Reconstruction and Re-establishment. Expenditures are envisaged for roads, public buildings, irrigation projects, etc.

[1] Based largely on Wartime Information Board: *Postwar Planning Information*, 28 Apr. 1945.

British Columbia

In a 1944 report on post-war activities, the Bureau of Postwar Rehabilitation and Reconstruction made recommendations with respect to such matters as industrial development, regional planning and public works. Action has already been taken on some of these recommendations. Thus, the Government has been authorised to borrow up to $15 million for the creation of a fund to be used for post-war reconstruction. A Rural Electrification Committee has been established to study the problem of expanding electrical services in rural areas. The 1945 session of the Legislature enacted a Bill to set up a Hydro-Electric Commission, which is authorised to acquire existing companies and to develop electric power throughout the province. Soil surveys have been carried out over more than 3,651,000 acres. The Government has approved a special vote of $50,000 for forestry research.

Manitoba

The Government has announced an extensive programme of post-war projects: (1) a flexible, ten-year budget of $76 million, which should be carried out in accordance with the changing employment situation; included are $25 million for roads, $17 million for rural electrification, and similar amounts for conservation, irrigation, and the development of natural resources; (2) a $113 million pool of useful works in similar fields, to be drawn on only if required to fill the employment gap; (3) development of hydro-electric power at a cost of $89 million. It is emphasised by the Government that the implementation of these plans is impossible without federal aid, or without a complete overhauling of Dominion-provincial financial relations. In the Premier's words, "provincial post-war finances will not support the provincial share of the post-war programme".

New Brunswick

The New Brunswick Committee on Reconstruction has presented a report recommending plans for the immediate post-war period relating to public works, rural electrification, health and welfare, forestry development, and flood control. The New Brunswick Natural Resources Development Board has also been making numerous investigations, particularly with a view to the further development of the natural resources of the province.

Nova Scotia

The Government has presented to the Legislature a detailed post-war plan for expenditures on public buildings, highways, educa-

tion, rural electrification, and the development of natural resources. For this purpose, the province expects to raise $40 million. If federal aid to an equal amount is provided, the projects will be completed in five years; if not, the plan will be carried out on a ten-year basis.

Ontario

Post-war projects are receiving the attention of many departments of the Ontario Government. The Department of Highways has prepared a road-building programme, on which it plans to spend $192 million in the four immediate post-war years; plans are also being made for later years. The Department of Public Works has plans for various construction projects. A comprehensive forestry scheme is to be undertaken by the Department of Lands and Forests, covering forest protection and management, and fire control. The Hydro-Electric Power Commission has published "A Five-Year Plan for Postwar Rural Hydro Developments". This plan involves an expenditure of about $22 million by the Commission on labour and materials, with a grant-in-aid by the Government to cover 50 per cent. of the cost. Some 7,000 miles of additional rural power lines will be constructed; about 57,900 new rural customers will be served; and total expenditure by the Commission and power consumers will amount to $63 million. It is estimated that 24,513 man-years of work, or an average of somewhat less than 5,000 men per year for five years will be provided. The Department of Planning and Development, established in March 1944, has been active in planning conservation of natural resources, and in town and community planning.

Prince Edward Island

The 1945 Legislature enacted measures relating to the supply of electric power, town planning, and the purchase by the province of surplus war assets from the Dominion Government.

Special post-war studies are being conducted under the supervision of the provincial Advisory Reconstruction Committee. These include housing, forestry, rural electrification, public health and welfare, and education.

Quebec

The 1945 Session of the Legislature approved a $30 million programme of new road construction, to be spread over a four-year period. Other governmental post-war plans have been prepared in connection with public works, housing, rural electrification, and forestry control.

Saskatchewan

The Minister of Natural Resources and Industrial Development of Saskatchewan is empowered to take over and operate any mine or lumber mill; also any building or machinery used for the development of water power. The Government had already purchased a power company and other basic manufacturing enterprises when the war ended. The City and Town Act has been amended to permit municipalities to enter into agreements with Wartime Housing Limited for assistance in the construction of houses during the post-war period; further provision has been made for the reduction of taxes that ordinarily would be assessed against such properties. Authorisation has also been given to the provincial treasurer to create a Reconstruction and Rehabilitation Fund of up to $5 million to meet capital expenditures for reconstruction and rehabilitation.

Considerable progress has been made in the field of investigation. Functioning under the direction of the Department of Reconstruction are several important planning groups: (1) the Committee on Rural Housing, which is to report on a programme for the development and improvement of rural homes and farm buildings; (2) the Committee on Rural Electrification, which is to study the whole question of the expansion and distribution of rural electric power services; (3) a special laboratory, which is to test the natural resources of the province for industrial use.

General

Preliminary estimates of provincial public works expenditures for 1945 indicated a marked expansion over the war years. The total capital outlays of all provinces except the Maritimes (for which no estimates are available for 1946) were expected to reach $102 million in 1946; in the previous year, outlays by all provinces except Manitoba (for which no 1945 figures are available) were $40 million; and in 1944 the total for all provinces was $22 million. The biggest increase in terms of dollars was in highways, bridges, and so forth; but public buildings also show a large percentage increase. In 1947, provincial public investment is expected to expand by another 50 per cent. Ontario, British Columbia, and Saskatchewan are the provinces where the greatest increase in estimated public investment outlays appears.

The Municipalities

The aims of the municipalities with regard to post-war public investment were set forth in a brief submitted by the Canadian Federation of Mayors and Municipalities to the Special Committee

of the House of Commons on Reconstruction and Re-establishment.[1] The preamble of the brief made the following statement:

> The municipalities of Canada are desirous of playing their full part in the post-war tasks of rehabilitation and reconstruction.
>
> We are deeply mindful that a tremendous moral responsibility rests upon the nation to restore to gainful post-war employment the men and women of the fighting services and those presently engaged in the defence industries and other special wartime employment.
>
> We recognise, moreover, the imperative necessity to introduce anti-cycle measures in order to smooth the uneven and frequently violent fluctuations which hitherto have characterised the economy . . . While conceding that private enterprise must be given every inducement and the widest opportunity to provide full employment, it is essential that we recognise the probability that there will be periods when this desirable goal cannot be reached. At this point it will be necessary for the governments of the nation, federal, provincial and municipal, to fill the gap in employment opportunity with an expanded programme of public works and services.

The brief urged the municipalities to cut expenditures, maintain tax rates, and build up a reserve of borrowing capacity during the war, to help to finance post-war public investment. The need for provincial enabling legislation to permit accumulation of municipal reserves for public works was pointed out; at that time, only Ontario and Nova Scotia had such legislation. It was suggested that a special bond instrument might be provided for the government for the investment of municipal surpluses and that the local tax base should be broadened.

The need for wider powers of land acquisition was stressed:

> The lack of adequate powers to control and determine urban land use has led to the present disorderly pattern which typifies our modern communities, and which in large part has contributed to urban blight and disintegration. It is now universally recognised that city and regional planning and zoning require comprehensive legal authority.
>
> Specifically, the local government (or governments — since frequently there are more than one) of the entire local area should be given the power:
>
> (1) To define (in agreement with the governments affected) the area to be planned;
> (2) To create the necessary planning machinery (town or regional planning commission); and provide for the making of a master plan for the urbanised area;
> (3) To vest the planning agency with all authority necessary to formulate and keep up to date the master plan;
> (4) To define "public purpose" to include any purpose deemed, by the appropriate agency of government within the urbanised area, to be essential for the realisation of the master plan;

[1] House of Commons, Special Committee on Reconstruction and Re-establishment, *Minutes of Proceedings and Evidence*, No. 31, 27 Nov. 1943 (Ottawa, King's Printer, 1943).

(5) To acquire, by simple measures, and where necessary by condemnation, land anywhere within the urbanised area for a public purpose as above defined; to hold, use, lease, sell or exchange such land; and in any case to make certain that it shall be used only in accordance with the master plan;
(6) To enact and enforce ordinances requiring the owners of real property within the urbanised area to use it, or to permit its use, only in accordance with the master plan.

It was also pointed out that means of co-ordinating the plans of municipalities for projects or regions of mutual interest should be developed. Federal financial aid was requested, with the proviso that such aid should be predicated upon the preparation by the municipalities of satisfactory master plans. The special importance of housing and elimination of urban blight and slums was emphasised.

With regard to timing, the brief made the following statement:

The post-war public works programme of municipalities should be programmed or timed, so as to go into immediate effect during the first, or short, conversion period, but should be capable of being suspended during the second phase of consumer demand and be resumed during the third and final long-term period.

Thus we need both small and large public works, those which can speedily be set in motion, and those which are of a more long-range nature. Of necessity, many public works must be scheduled for the third period, awaiting production of necessary materials and equipment. In the first period, a local public works programme, in part at least, would take the form of deferred maintenance and postponed but urgent public improvements.

In its "Resolution No. 18 on Municipal Post-War Public Works Projects", the Federation recommended to the Dominion and provincial governments that a National Reconstruction Board, with a regional board in each province, should be established to correlate public investment plans of the three levels of government. The Federation also suggested that projects be classified as "local", "county and district", "provincial", and "national"; and that the extent of financial aid to municipalities should be varied accordingly. For local projects, or county and district projects of purely local significance, outside assistance should consist merely of low-interest loans. For other county and district projects, financial aid should be provided by the Dominion and/or provincial governments on a basis to be decided by the Reconstruction Board. Provincial projects should be provincially financed, perhaps with federal loans, or with federal grants if the project has a national as well as a provincial significance. National projects should be federally financed.

A survey conducted by the Federation in the spring of 1945 indicates the extent to which the Canadian municipalities were prepared to start public investment on V.E. Day. The results are summarised in table 42. The total programme in all stages of plan-

TABLE 42. STATUS OF MUNICIPAL PUBLIC INVESTMENT PLANNING IN CANADA, JUNE 1945[1]

(*$ thousand*)

Type of project	Municipal post-war public works projects							
	Planned		Partially planned[2]		Under consideration		Total	
	New	Repair and maintenance	New	Repair and maintenance	New	Repair and maintenance	New	Repair and maintenance
Waterworks and sewers	8,450	613	26,132	97	50,062	855	84,644	1,565
Unspecified municipal facilities	12,579	25	3,080	25	43,262	398	58,921	448
Streets, sidewalks, etc.	7,267	1,067	6,290	577	45,139	1,464	58,696	3,108
Municipal buildings	2,213	27	4,956	265	23,303	584	30,472	876
Bridges and ferries	3,420	10	6,509	15	18,297	6	28,226	31
School buildings	1,256	551	747	80	22,792	199	24,795	830
River embankments, etc.	5,080	25	260	25	12,200	116	17,540	166
Street lighting	2,776	100	1,362	36	2,169	51	6,307	187
Airports, airways	200	—	—	—	1,435	5	1,635	5
Total	43,241	2,418	49,336	1,120	218,659	3,678	311,236	7,216

Source: CANADIAN FEDERATION OF MAYORS AND MUNICIPALITIES: *Municipal Post-War Public Works Projects* (Montreal, June 1945).

[1] Based on a survey of towns with 5,000 or more population, returns from which covered some 56 per cent. of the urban population of Canada.
[2] Defined as projects that could be started in six months.

ning on V.E. Day was substantial. The average annual programme for the first five years after the war is almost equal to actual outlays in 1929. Only about one eighth of the total programme, however, was fully planned when the war ended in Europe, and over two thirds was still in the "idea" stage. Moreover, the geographical distribution of the programme was unsatisfactory. Of the 67 municipalities replying, 41 reported no plans whatsoever; and it is safe to assume that most of the 83 municipalities which did not reply to the survey also had no plans to report. In general, the larger towns had made most progress with post-war planning; the 26 towns and cities reporting plans comprised 82 per cent. of the population of the 67 municipalities replying. The Province of Quebec had much the biggest volume of plans completed, almost all in cities with a population of over 30,000; however, the substantial programme of the City of Montreal accounts for much of the planning in that province.

Few of the reporting municipalities were in a position to finance their own programmes unaided. Only 27 of the 67 reported reserves of cash, surplus, or authorised borrowing, and the total of these reserves was only $19.4 million. The municipalities replying indicated a willingness to finance only 43 per cent. of the programme planned.

The replies indicated that the chief obstacle to planning was the lack of funds for the purpose, with the lack of skilled personnel next in importance among delay factors. About three quarters of the projects planned would be carried out by private contract.

CHAPTER XVII

SWEDEN

During the spring and summer of 1943, a series of investigations were started in Sweden regarding the economic problems of reconversion. These investigations had two objects in view: first, to gather material that would facilitate an estimate of the initial position and problems of Sweden in the transition to a peacetime economy; and second, to plan preparatory measures of various kinds. One of the series of such investigations was made by a Committee of Enquiry on Public Works (*Investeringsutredningen*) under the chairmanship of the President of the State Employment Market Commission. The task of this Committee in regard to post-war planning was to investigate and plan for such public works as would be suitable for giving the necessary opportunities of employment if the demand for labour in private enterprise should fall below the supply.

When these investigations had proceeded far enough to give preliminary results for the main fields under consideration, a Commission on Economic Post-War Planning (*Kommission för ekonomisk efterkrigsplanering*) was appointed early in 1944, with representatives from all leading parties in the Riksdag and from different branches of economic activity. Its task was — with reference to the results of investigations already made or to be made — to consider the broad lines of economic post-war policy in relation to the general policy of the Government, and to make recommendations for future policy.[1] The President of this Commission was Professor Gunnar Myrdal.

Public Investment Plans

Co-ordination is the keynote of current public investment planning in Sweden: public investment is to be integrated with private investment, with the broad aims of social policy regarding social security, housing, health, recreation, education, and so forth, with export policy, and indeed with the whole nexus of social and economic planning. To assist in this integration, an Investment Council has been set up, with representation from Government

[1] *Post- och Inrikes Tidningar*, 23 Feb. 1944.

authorities and from organisations representing industry, labour, agriculture, banking, commerce, and the co-operative movement, to advise the Government on all matters relating to both private and public investment, including the geographical distribution of new investment. The importance of counter-cyclical timing of the investments of local authorities has been clearly recognised, and the State Employment Market Commission has been requested to plan a reserve of projects for both central and local governments, and to submit to the Government each year recommendations concerning the execution of these projects.

The basis for this work was provided by an investment survey undertaken by the Committee of Enquiry on Public Works, which submitted its report in April 1944.[1] For the purposes of the survey, which covered State, State-supported, and municipal programmes, reports were requested from all towns and urban districts and from 800 of the 2,400-odd rural communes. Out of a total of 1,205 communes, 881 answered that they had investment projects in some stage of planning, 258 stated that there were no work projects available, and 66 did not return the questionnaire.

The results of the survey yielded information relating to over 7,000 investment projects, with an estimated cost of 3,700 million kronor. These investment plans were prepared for the fiscal year 1944-45, and included a "reserve" of projects that could be planned in detail and be ready to be executed as a compensatory device during the year, consisting of construction works and equipment to a total cost of about 580 million kronor in a "general reserve" and of about 215 million kronor in a reserve of "heavy" (unskilled) work projects. The so-called general reserve would give employment to about 60,000 men during one fiscal year, and the special, unskilled works reserve to approximately 28,000 more. The unskilled works reserve would be used only if there was a shortage of materials for the undertakings planned in the general reserve. Projects of the unskilled works type considered particularly urgent were placed in the general reserve.

The Government has recognised that the lack of detailed advance planning diminished the effectiveness of anti-depression policy in the 'thirties.[2] To avoid a repetition of this defect, 1.4

[1] The report was considered by the Post-War Planning Commission, which submitted its recommendations to the Government on 10 May 1944 in a report from which the following particulars are drawn (FINANSDEPARTEMENTET: *Utredningar angående ekonomisk efterkrigsplanering*, No. VII, Stockholm, SOU, 1944, No. 57).

[2] Cf. AMERICAN-SWEDISH NEWS EXCHANGE: *Business News Letter from Sweden*, Vol. 3, No. 20, 30 Nov. 1945, report of statement by the Minister of Communications, which contains also the following data on the planning situation at the end of the war.

million kronor were paid out before V.J. Day to aid in the planning of municipal and private investment projects. When the war ended, a fully planned shelf of Government projects worth 400 million kronor was available. In addition, a special reserve of unskilled works worth 80 million kronor, and a reserve of municipal projects amounting to 225 million kronor, had been completed.

According to the enquiry made by the Agricultural Committee set up in 1942, agricultural projects could be started on short notice to give employment to approximately 20,000 men for one year. The Forestry Board estimated that approximately 25,000 men could be employed for one year on projects that could be started in an early phase of an unemployment crisis. By the end of the war, some 31,000 agricultural projects costing 57 million kronor were fully planned and available for immediate initiation.

The agricultural works reserve planned and prepared would be sufficient only to absorb in a period of unemployment that part of the farm population which normally supplements its income by part-time employment in other industries. However, it was assumed that the part of the farm population which had been called up for military service could be absorbed by ordinary farm activity. Similarly, the Forestry Board assumed that the works reserve in its field would be reserved for the forest workers.

At the time the war ended, the Government had made further allocations to assist in the detailed planning of 120 water supply and drainage projects, costing 80 million kronor. Some ten district engineers had been engaged to help local highway authorities with this work. In addition, the Government had trained about 500 foremen and 100 works inspectors to facilitate execution of the investment reserve. A 30-year programme of water supply and drainage projects is contemplated, involving a total cost of 1,000-1,300 million kronor.

The Post-War Planning Commission underlined the importance of building up a large reserve even if only part of it can be undertaken during the planning period. The greater the reserve, the greater the freedom of choice of projects and the less the danger of expensive improvisations. A large reserve is also desirable because lack of raw materials might limit activities in certain fields. Such shortages may make it necessary to give priority to the unskilled works projects: first those in the general reserve, and then those in the special reserve of such projects. In any case, the detailed planning of the unskilled works projects should be completed as quickly as possible.

The Commission paid special attention to the problem of the counter-cyclical timing of power development. In principle, it has

been the policy of the Government Water-Power Board to plan a more or less continuous expansion. In practice, however, power development follows the cycle. The increased need for power during periods of high production results in new construction of power units. The Commission felt that while industrial expansion when business is good should not be hampered by lack of power, an effort should be made to stabilise investment in water-power development, and suggested the adoption of measures to facilitate interest payments when new construction is to be accelerated for reasons of employment policy.

An important part of the investment reserve consists of projects to be undertaken by the State Railways. In 1939 the Riksdag passed an Act providing for the nationalisation of the railways still in private hands, but the realisation of this programme was delayed by the war. The Commission proposed that the private railways should be included in the general investment plan.

The Commission noted further that most of the investment projects included in the plan were construction projects, and that accordingly they would provide employment only to a limited sector of the economy. Since house building had been given a central place in plans to meet a possible depression, there was a risk that the anti-unemployment measures would be too much concentrated on the building and construction industries. The Commission therefore suggested that the aim of the housing programme, for example, should be the stabilisation of house building at a fairly high level, rather than counter-cyclical variation of the volume of new construction. And it recommended that the Government should examine the possibility of creating employment in certain industries by promoting the sale of goods for which there is a special demand, such as agricultural machinery and durable consumer goods.

Production for Storage

The question was also raised whether the State should adopt the principle of production for storage. On its own behalf the State should give long-term orders to industry. It is also known that schools, hospitals, and other public institutions, especially in rural communities, are frequently underequipped. To make good such inadequacies, the Commission held, should be regarded as more urgent in case of unemployment than many of the construction works listed among the investment reserves.

Of special interest is the Commission's plan for using public investment in stocks (inventories) as a counter-cyclical device. Under this plan, Government authorities would acquire supplies in

excess of current needs whenever unemployment threatened. The theoretical advantages of such a policy were explored by Dr. Karin Kock, one of the experts on the Commission. Compared with public works, Dr. Kock pointed out, the policy of investment in stored goods has the advantage that workers need not be shifted to other occupations or to other places of employment. Such production for storage would be limited to amounts that would not call for additions to existing industrial capacity. In terms of existing capacity, of supplies of labour and raw materials, and of technical capacity for storage, the policy was considered most feasible first of all in the field of engineering products, processed wood products, chemicals, and possibly matches and iron ore.

Policy for Export-Industry Regions

The Swedish Government also has interesting plans for dealing with the problem of employment in towns or regions dependent upon one or two industries, especially industries producing for export. Such regions are liable to acute local unemployment when the foreign market for their basic product falls off; and the foreign market is not subject to direct and effective control by the Swedish Government. To meet this situation, it is proposed to establish in such areas new industries producing for the domestic market. These industries can be expanded through subsidies and production for storage when the basic industries of the region are declining, thus alleviating the unemployment that would otherwise develop.

CHAPTER XVIII

SWITZERLAND

Although Switzerland maintained its neutrality throughout the war, the country's problem of post-war reconstruction is not dissimilar to that of the belligerent countries. Mobilisation of men and resources for national defence produced full employment soon after war began, and at the same time introduced a danger of serious post-war unemployment. The Swiss Government became aware of this danger very early in the war. In the summer of 1940, a Federal Committee was set up to analyse the problem of creating post-war employment, and to provide a basis for post-war employment policy. This Committee submitted a report some months later, stressing the importance of assistance to the export industry and of systematic execution of a public investment programme in the future battle against unemployment.

The Employment Commissioner

Following a recommendation of this Committee, the Federal Government appointed an Employment Commissioner in 1941 who was assigned the task of preparing a comprehensive plan for the creation of employment opportunities, in co-operation with the cantons and communes and with private industry. One of his first actions was to recommend to the cantons the establishment of multi-annual programmes, with as large a share as possible of the projects fully prepared for execution.

The legal foundation for execution of an employment policy was laid down by a Federal Order of 29 July 1942.[1] The Order called on the Confederation to draw up a general plan to fight unemployment, which would co-ordinate the purchases and ordinary and extraordinary investment projects of all levels of government, of public utilities, and of private corporations. Since Switzerland has a federal Constitution under which responsibility for public investment rests largely with the cantons and communes, central Government Orders relating to public investment are largely limited to an exposition of the measures considered most suitable for the

[1] *Recueil des lois fédérales*, 30 July 1942, No. 37.

creation of employment opportunities, and to an indication of the means by which the Federal Government intends to influence the policy of the intermediate and local governments. These means are mainly financial. The central Government can make grants to the cantons for the planning and execution of public investment projects. Under legislation undertaken during the war, in response to recommendations of the Employment Commissioner, part of these grants is to be used for emergency works expressly designed to alleviate unemployment in particular fields of economic activity.

The Public Investment Programme

The Employment Commissioner submitted his first interim report in September 1942, laying down the general lines of post-war employment policy. This report was followed by a Federal Order, of 6 August 1943, setting forth in more detail the types of policy to be carried out, the extent of financial assistance to be provided by the central Government, the procedure for presenting and reviewing applications for Federal subsidies, the criteria to be applied in determining the degree of assistance for particular projects, the method of payment, and so forth.[1] A series of further reports of the Employment Commissioner followed, including studies of the construction industry, low-cost housing, slum clearance and urban redevelopment, wartime expansion of the civil service, and other matters relating to the post-war employment situation. The main proposals were assembled into an "Interim Report of the Federal Council to the Federal Assembly on Preparatory Measures Taken for the Creation of Employment Possibilities", and presented by the Federal Council to the Federal Assembly on 20 June 1944.[2] This report was adopted, after considerable debate, two days later.

The proposals fall into two main categories. The first consists of policies designed to stimulate private investment, and the second of public investment policies. In the first category, the expansion of exports is the chief objective. In the second category, construction projects play the dominant role. Low-cost housing and urban redevelopment projects will occupy a place of particular importance in public construction programmes, but the improvement of transport facilities, including railways, airways, alpine and strategic roads, and inland waterways, will also be of considerable importance. Certain public services, such as financial aid for scientific research, are also included in the programme.

[1] *Receuil des lois fédérales*, 19 Aug. 1943, No. 35.
[2] Cf. *Feuille fédérale*, 8 June 1944, No. 12.

The employment measures of the Federal Government are designed in such a way as to encroach neither on the freedom of private enterprise nor on the sovereignty of the cantons and the communes. Indeed, the outstanding feature of Swiss planning for full employment is the emphasis on a joint attack by Federal, intermediate, and local governments and private enterprise.

The public investment programme includes a reserve of projects that can be carried out over a five to ten-year period. Some of the plans for these projects were well advanced at the time the war ended. The plans of the Federal Railways, for example, were sufficiently advanced to permit actual execution to be started at any time after V.J. Day. These plans call for an expenditure of 760 million francs within ten years, with modernisation of equipment occupying a major place. The Federal Airlines Office has prepared a programme of 200 million francs. Post office, telephone and telegraph services are other major items of proposed Federal expenditure. Altogether, the Federal Government plans to spend over 2,000 million francs for public investment, and the cantons over 3,000 million francs, in the five years following the cessation of hostilities. This figure compares with 5,600 million francs spent for national defence in the five years from 1938 to 1943, and represents an unusually high ratio of planned public investment expenditures to wartime defence expenditures. About 80 per cent. of the annual outlay of approximately 1,000 million francs will go to the construction industry.

The rapid progress of public works planning at the local government level is demonstrated by the figures in table 43. Of the total programme of 3,590 million francs in some stage of planning early in 1945, the cantons were responsible for projects amounting to 2,014 million francs and the communes for the balance of 1,576 million.

TABLE 43. PROGRESS OF PUBLIC WORKS PLANNING BY SWISS LOCAL AUTHORITIES (CANTONS AND COMMUNES) 1941-1945

(*Frs. million*)

Stage of planning	1941	1943	1945
Projects prepared and financed.....	321	404	534
Projects prepared but not financed....	456	595	913
Projects under study.....	438	1,175	978
Projects not yet under study.....	478	780	1,165
Total.....	1,693	2,954	3,590

Source: DÉLÉGUÉ AUX POSSIBILITÉS DE TRAVAIL: *Programme multiannuel de travaux publics (Enquête du 30 novembre 1944)* (Lausanne, 1945), p. 2

TABLE 44. ESTIMATED ALLOCATION OF AN ANNUAL EXPENDITURE OF 1,000 MILLION FRANCS ON PUBLIC WORKS IN SWITZERLAND

(*Frs. million*)

Nature of works and orders	Total outlay	Subsidies by the				Reimbursement by Compensation Fund to		Balance of expenditure met by			
		Confederation		Cantons and communes		Confederation	Cantons and communes	Confederation and the Federal Railways	Cantons	Communes	Third parties
		Percentage of total outlay	Amount	Percentage of total outlay	Amount						
		%		%							
Residential construction	270.0	15	40.5	7.5	20.25	20.25	10.125	20.25	5.0625	5.0625	209.25
Industrial construction	70.0	20	14.0	10.0	7.00	7.00	3.500	7.00	1.750	1.750	49.00
Maintenance of buildings	150.0	15	22.5	7.5	11.25	11.25	5.625	11.25	2.8125	2.8125	116.25
Confederation works and orders	40.0	—	—	—	—	10.00	—	30.00	—	—	—
Federal Railways works and orders	60.0	40	24.0	20.0	12.00	12.00	6.000	36.00	3.000	3.000	—
Works and orders by the cantons	110.0	30	33.0	—	—	16.50	8.250	16.50	68.750	—	—
Works and orders by the communes	100.0	25	25.0	12.5	12.50	12.50	6.250	12.50	6.250	62.500	—
Industrial orders and others	200.0	20	40.0	10.0	20.00	20.00	10.000	20.00	5.000	5.000	140.00
Total	1,000.0	—	199.0	—	83.00	109.50	49.750	153.50	92.625	80.125	514.50

Source: *Feuille fédérale, loc. cit.*

TABLE 45. ALLOCATION OF COSTS OF THE SWISS EMPLOYMENT PROGRAMME BY TYPE OF PROJECT
(*Frs. million*)

Type of work	Total cost	Routine works	Emergency works	Share of the responsible authority				Subsidies			Reimbursement by Compensation Fund to		Effective cost			
				Confederation	Federal Railways	Cantons, communes	Third parties	Confederation		Cantons	Confederation	Cantons	Confederation	Federal Railways	Cantons, communes	Third parties
								Routine	Emergency							
Low-level roads	540	—	540	—	—	324	—	—	216	—	108	54	108	—	270	—
Alpine roads (15 years)	254	160	94	—	—	89	—	105	60	—	30	—	135	—	89	—
Federal Railways	760	250	510	—	454	—	—	—	204	102	102	51	102	454	51	—
Private transport undertakings	250	—	250	—	—	—	100	—	100	50	50	25	50	—	25	100
Electricity plants	477	477	—	—	—	—	477	—	—	—	—	—	—	—	—	477
Post office, telegraphs and telephones	424	424	—	424	—	—	—	—	—	—	—	—	424	—	—	—
Aviation	200	—	200	80	—	72	—	—	48	—	44	12	84	—	60	—
Water services	190	—	190	—	—	114	—	—	76	—	38	19	38	—	95	—
Dam and river works	139	139	—	—	—	78	—	41	—	20	—	—	41	—	98	—
Land improvements (15 years)	800	100	700	—	—	320	—	40	280	160	140	70	180	—	410	—
Cantonal programmes (5 years)	1,000	500	500	—	—	805	—	—	150	45	75	37.5	75	—	812.5	—
Total	5,034	2,050	2,984	504	454	1,802	577	186	1,134	377	587	268.5	1,237	454	1,910.5	577
Yearly average	568.3	246.3	322	50.4	45.4	247	57.7	15	116	43	60.5	28.3	120.7	45.4	255.7	57.7

Source: DÉLÉGUÉ AUX POSSIBILITÉS DE TRAVAIL: *La création de possibilités de travail en périodes de guerre et d'après-guerre* (Lausanne, F. Rouge & Cie 1943), p. 106.

The proposed expenditure on the main types of project in the 1945 programme is as follows:

	Proposed outlay Frs. million
Roads	1,382
Rivers, hydraulic works, canals	767
Land improvements	204
Other civil works	200
Office buildings	162
Schools, recreation facilities	327
Churches	78
Hospitals, public buildings	292
Other buildings	178
Total	3,590

The proposed method of financing the public works programme is indicated in tables 44 and 45. Part of the Federal expenditures will be financed out of sums appropriated before the war but never used. The Federal Government will bear about 11.7 per cent. of the annual cost, the Federal Railways about 3.6 per cent., the cantons and communes 17.3 per cent., and 15.9 per cent. will be covered by reimbursement of allowances for wartime losses of wages or earnings.[1] The balance, constituting 51.5 per cent. of the total, is to be provided by other participants, presumably private concerns or public utility companies.

These expenditures are to be timed according to the employment situation. The Employment Commissioner has declared that efficient timing of public investment requires knowledge of the employment potential five to ten years in advance. For this reason, considerable emphasis is placed on the collection, processing, and use of statistical data on public investment and on employment policy in general. The Employment Commissioner issues monthly information bulletins to keep public authorities and private enterprise informed of the employment situation, and of measures undertaken or proposed for the creation of employment opportunities.

[1] Such allowances were paid in the case of men mobilised for military service, out of a Compensation Fund set up by an Order of the Federal Council of 7 Oct. 1941 (*Recueil des lois fédérales*, 9 Oct. 1941, No. 46).

CHAPTER XIX

THE UNITED KINGDOM

The guiding principles of future British policy in the field of public investment were outlined in the White Paper on *Employment Policy*, presented to Parliament by the Minister of Reconstruction in May 1944. One of these principles is counter-cyclical timing of public investment, to maintain a high and stable level of employment in the post-war period. The new policy is officially expressed as follows:

> In the past, public capital expenditure has generally followed the same trend as private capital expenditure — it has fallen in times of slump and risen in times of boom, and has tended therefore to accentuate the peaks and depressions of the trade cycle. In the future, Government policy will be directed to correcting this sympathetic movement. It should be possible for the Government to maintain the stability of public investment when private investment is beginning to fall off at the onset of a depression. But this may not be enough: for the purpose of maintaining general employment it is desirable that public investment should actually expand when private investment is declining and should contract in periods of boom. There are, however, practical limits to the extent to which Government action can produce swings in public investment to offset such swings in private investment as it cannot prevent... But within those limits the Government believe that they can influence public capital expenditure to an extent which will be of material value for the purpose of maintaining employment.[1]

With regard to finance, the White Paper declared that the budget should not be balanced in times of unemployment, but should be balanced over the cycle as a whole:

> The policy of steadily decreasing the deadweight debt, while other forms of debt are increasing, does not mean a rigid policy of balancing the budget each year regardless of the state of trade. Such a policy is not required by statute nor is it part of our tradition. There is nothing to prevent the Chancellor of the Exchequer in future, as in the past, from taking into account the requirements of trade and employment in framing his annual budget. At the same time, to the extent that the policies proposed in this Paper affect the balancing of the budget in a particular year, they certainly do not contemplate any departure from the principle that the budget must be balanced over a longer period.[2]

In many sectors of the economy, public investment policy has reached the advanced planning stage or is actually being carried

[1] *Employment Policy* (Cmd. 6527, London, H.M. Stationery Office, May 1944), p. 21.
[2] *Ibid.*, p. 25.

out. This is particularly true of housing, town and country planning, Government loans for public works, and the location of industry.

HOUSING

In March 1945, the Ministry of Reconstruction published a White Paper outlining the Government's post-war housing policy.[1] The Paper stated that about 200,000 houses had been entirely destroyed, and a further 250,000 made uninhabitable, by enemy action; also that a very large number of houses had been damaged more or less seriously but were still occupied. The ultimate aim of the Government was to provide 1,250,000 houses. Of this number 750,000 were needed to afford a separate dwelling for every family that desired to have one, and 500,000 were required for the completion of slum clearance and overcrowding programmes which had been in progress before the war.

The Government considered the first two years after the end of hostilities in Europe as a period of national emergency, when exceptional measures would be necessary to meet the housing shortage. The primary purpose of the Government was to produce the largest practicable amount of separate dwellings during this emergency period.

The Government's target was 300,000 permanent houses built or being built by the end of the second year after the European War. By that time, it was hoped, 220,000 would be completed and 80,000 in varying stages of construction. Moreover, temporary houses, though more costly and inferior, were to be built to the extent necessary to bridge a large part of the gap between the practical programme of permanent house construction and the housing needs of the country; for this purpose, the Government was to ask for authority to spend up to £150 million.

In order to make the implementation of the housing programme possible, the labour force, which in March 1945 numbered only 337,000 men, was to be increased to 800,000 by the end of the first year after the European War. It was hoped that it would subsequently go beyond the pre-war figure of one million men. To prevent a further rise in costs, the volume of construction and the prices of materials would continue to be controlled.

The Ministries of Health and Works, which are jointly charged with the responsibility for the administration of housing policy,

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[1] *Housing* (Cmd. 6609, London, H.M. Stationery Office, Mar. 1945). For a brief history of the background of this White Paper, see "Housing Policy in Great Britain", in *International Labour Review*, Vol. LII, Nos. 2-3, Aug.-Sept. 1945, p. 258.

have undertaken a series of post-war building studies covering materials, design, project design, and techniques of prefabrication. The research has not been limited to laboratory experiments, but has involved the construction of some sixty experimental houses of twelve different types. The results have been incorporated into very complete and well-illustrated Housing Manuals, which have been distributed to the local housing authorities as guides for the construction and layout of dwellings and of projects. In addition, a number of specialised studies have been published.

Under the Housing (Temporary Provisions) Act of 1944, central Government subsidies could be paid to local authorities not only for slum clearance or abatement of overcrowding, but for any residential construction the local authorities undertake. The Housing (Temporary Accommodation) Act of 1944 provided for co-operation between local authorities and the central Government in meeting emergency conditions. The local authorities were to arrange for sites and facilities, and the central Government would arrange and pay for the manufacture, transportation, and erection of temporary houses on the sites. A sum of £150 million was provided to cover expenses incurred by the Minister of Works in this connection. When the war ended, the local authorities had already acquired 25,000 acres for housing sites, and were in process of acquiring 32,000 acres more.[1] Government assistance is not to be limited to urban housing authorities, but will be extended to rural district councils as well. Indications are that approximately half of the total housing programme will be undertaken by public authorities.

To ensure an adequate and balanced flow of building materials and components once skilled labour becomes available in sufficient volume, the Building Materials and Housing Act was adopted on 20 December 1945. The Act authorises the Government to purchase, produce, and distribute building materials and permanent equipment. Metal components and fittings will receive particular attention, and much reliance is placed on standardisation of such items as baths, taps, gutters, pipes, and so forth. Parts for permanent housing of the traditional sort, for prefabricated housing, and for temporary housing will be included in the progamme. Some 19 or 20 royal ordnance factories are to be used for the purpose, together with additional plants, operating on subcontracts if necessary. The programme is to be administered jointly by the Ministers of Works, Health, and Supply, and outstanding commitments are limited to £100 million.[2]

[1] NATIONAL COMMITTEE ON HOUSING: *Britain Faces its Housing Emergency* (New York, Sept. 1945), p. 19.

[2] *The Economist* (London), 1 Dec. 1945; and Building Materials and Housing Act, 1945.

The Housing (Financial and Miscellaneous Provisions) Act provides for a standard subsidy of £16 10s. per house for 60 years to be paid by the Exchequer in respect of housing accommodation provided by a local authority. The highest previous subsidy, provided under the 1924 legislation, was £13 10s. for 40 years. Moreover, the Act provides subsidies of £25 10s. for agricultural workers' houses, and higher subsidies for flats on expensive sites and for flats requiring lifts. An additional amount of £2 can be paid where protection against mining subsidence is necessary. In contrast to some of the earlier housing legislation, these subsidies are available only to local authorities, and not to private builders.[1]

Town and Country Planning

The Ministry of Town and Country Planning established in February 1942, as well as the Town and Country Planning Act of 17 November 1944, were the outgrowth of the recommendations put forward in the Scott, Barlow, and Uthwatt Reports. All three Reports advocated the establishment of a central planning authority. The Uthwatt Report was, perhaps, the most closely related to the new planning legislation; it proposed the acquisition by the State of development rights in all undeveloped land outside built-up areas, and the extension to local authorities of wide powers for the compulsory acquisition of land.

The Act of 1944 has four primary purposes: (1) it empowers local planning authorities, with the consent of the Minister of Town and Country Planning, to acquire land freeholds compulsorily, for the redevelopment of severely war-damaged or obsolescent areas, and for the development of new areas to accommodate population and industry from the older "overspill" areas so redeveloped; (2) it authorises local planning authorities, again with ministerial consent, to lease land acquired under the Act for development by private individuals, or to develop the land themselves; (3) it makes provision for financial assistance from the central Government towards the redevelopment of war-damaged, and associated overspill areas; (4) it fixes compensation for purchased land on the basis of prices current on 31 March 1939.

The local authorities are required, in each case, to submit to the Ministry of Town and Country Planning a general development plan as a framework for acquisition, clearance, and redevelopment. Subject to such approval, it is their responsibility to carry out any type of development project which they consider appropriate.

[1] *The Economist*, 9 Feb. 1946; and Housing (Financial and Miscellaneous Provisions) Act, 1946.

Local government borrowing, supplemented by loans from the Treasury, is expected to provide the necessary funds. From the financial point of view, the magnitude of the task entrusted to the local planning authorities under the Act is indicated by the fact that preliminary estimates place the cost of acquiring and clearing land in the war-damaged areas alone at approximately £575 million.

The Act, like the jurisdiction of the Ministry of Town and Country Planning, applies only to England and Wales. There is a separate Act for Scotland which is very similar to the English Act. The responsible Minister is the Secretary of State for Scotland.[1]

In addition to general town and country legislation, extensive planning is being carried out on behalf of many British cities. Included among these are Birmingham, Edinburgh, Leeds, Leicester, Liverpool, London, Manchester, Plymouth, and many smaller centres. According to the mission to Great Britain of the National Committee on Housing of New York:

> The planners have taken to heart the admonition to "make no little plans". Whether the particular planning job involves a single project or site or an entire economic region, British planning is characterised by a breathtaking sweep, scope and a reaching for far-off goals which brush aside such normally restrictive factors as cost, existing limitations in law, or political jurisdictions.[2]

National Planning

The new Government which came into office in July 1945 has taken several steps towards the development of national planning. The nationalisation of the Bank of England was regarded as the first such step. A second was the Borrowing (Control and Guarantees) Act, 1946, which provides that the Treasury may make orders for regulating borrowing, share issues, etc., and may guarantee industrial development loans up to £50 million per year. The coal industry has been nationalised and the nationalisation of transport and part of the iron and steel industry is under discussion. Such measures will obviously broaden the possible scope of public investment policy in the United Kingdom.

Public Works Borrowing by Local Authorities

The Local Authorities Loans Act of March 1945, was designed to broaden and relax the regulations governing the borrowing powers of local authorities for public works. The new Act makes it illegal, until 1950 (or longer, if Parliament so decides), for any local authority to borrow otherwise than from the public works loan commissioners; the Treasury is empowered to prescribe exceptions.

[1] The Act has been supplemented by the Town and Country Planning (General Interim Development) Order, 1945, and the New Towns Act, 1946.

[2] *Op. cit.*, p. 22.

Another provision removes all previous restrictions on the lending powers of the commissioners by stipulating that they may lend for any purpose, and for any period not exceeding the period for which a local authority is able to borrow. At the same time, the borrowing powers of the local authorities are brought into line with the lending powers of the commissioners. Thus in circumstances whereby a local authority, having borrowed under the Act, is carrying out a development scheme under the Town and Country Planning Acts, the scheme being in the early stages unremunerative, the repayment of interest and principal may be postponed with the consent of the Treasury and the Public Works Loan Board. The initial rates of interest to be charged are as follows: for loans not exceeding a period of 5 years, 2 per cent.; not exceeding 10 years, 2½ per cent.; not exceeding 15 years, 2¾ per cent.; not exceeding 30 years, 3 per cent.; and upwards of 30 years, 3⅛ per cent.

The Public Works Loans Act, 1946, provides among other things that the National Debt commissioners may, for the purpose of local loans by the public works loan commissioners, issue sums not exceeding £150 million in all.

Distribution of Industry

The Distribution of Industry Act of 1945 "is designed to enable the Government to secure a proper distribution of industrial activity over the country as a whole by stimulating the development of areas in which there is a danger of unemployment and by controlling further industrial development in areas where control is considered desirable for economic, social, or strategic reasons".

Under the Act, the Board of Trade is empowered to acquire land in especially designated "development areas" (where there is great danger of unemployment) for the building of factories, and may itself build factories. The Board of Trade is also authorised, with the consent of the Treasury, to make loans to non-profit making trading or industrial estate companies which provide factory buildings and communal facilities for private firms in the special regions. The Board, finally, may acquire derelict land in development areas and carry out work on it, with a view to bringing it into industrial use or improving its condition. Government departments responsible for basic services in any development area may, with Treasury consent, make grants or loans towards the cost of improving those services where they are inadequate for the needs of the area. The Treasury itself is empowered to give financial aid in respect of the capital requirements of industrial undertakings in development areas by making annual grants or loans.

CHAPTER XX

THE UNITED STATES

The Government of the United States is committed in a general way to a policy of utilising public investment to offset fluctuations in private employment. In his budget message for the fiscal year 1946, delivered on 6 January 1945, President Roosevelt stressed the importance of advance planning of public investment to meet post-war unemployment:

> We must continue to stock up a shelf of meritorious construction and development projects to be undertaken as manpower and material become available . . . We need a larger shelf of detailed plans in order to be prepared for the post-war period. Hence, appropriations for 1946 are recommended to make possible the completion of additional plans for highways, flood control, river development, stream pollution control, power transmission, reclamation, hospital, and other construction, as authorised by law. Further requests for funds for detailed planning of Federal projects will be made on Congressional authorisation.[1]

President Truman, in a message to Congress on 6 September 1945, also drew attention to the importance of accelerating the planning of public investment, not only to provide work but to conserve and develop natural resources and to meet urgent needs. Soil conservation, power development, and housing were especially emphasised. In his message transmitting the budget for 1947, the President reiterated these views. He urged the resumption of long-range programmes of resource development, the timing of public works so as to offset fluctuations in private construction, continued financial aid to Federal agencies and to State and local governments for public investment planning, and Federal subsidies for rural housing and for urban housing and redevelopment. "Our long-run objective", he stated, "is to achieve a programme of direct Federal and Federally-assisted public works which is planned in advance and synchronised with business conditions. In this way it can make its greatest contribution to general economic stability."[2]

Public investment in the United States can be divided into three major subdivisions. The first subdivision consists of projects to

[1] *Congressional Record*, 9 Jan. 1945.

[2] *Message of the President on the State of the Union and Transmitting the Budget for 1947* (Government Printing Office, Washington, 1946), p. XL.

be undertaken by "Federal class I agencies", *i.e.*, Federal agencies making direct expenditure for public works. The second category covers the projects of "Federal class II agencies", comprising Federal agencies operating in co-operation with State and local governments on a grant basis. Third, there are projects to be financed entirely by State and local governments.

Federal Class I Programmes

Department of the Interior

Among Federal class I agencies, those which fall under the direction of the Secretary of the Interior have been most active in the public works planning field. The Bureau of Reclamation alone presented a programme of over $3,000 million worth of projects to the George Committee of the Senate in June 1944. It was estimated that the 236 projects comprising this programme would provide employment for 300,000 workers. However, when the war ended the greater part of this programme was still in the "idea" stage, with no plans, surveys, or working drawings available. In June 1946 the Bureau had only some $15 million of completely planned projects.

In addition to the programme of the Bureau of Reclamation, the Department of the Interior had prepared programmes of public works amounting to $857 million, to be spread over a three-year period. The composition of this programme, and the private construction which it is thought would be generated by it, are shown in table 46:

TABLE 46. PROPOSED PUBLIC INVESTMENT BY THE UNITED STATES DEPARTMENT OF THE INTERIOR (EXCLUDING THE BUREAU OF RECLAMATION)

(*$ thousand*)

Type of project	Planning cost	Public construction cost	Private construction cost
Economic development of Alaska	3,647	69,586	74,000
Mineral and industrial development	8,702	46,650	231,575
Coal, gas, and oil development	2,946	114,025	276,625
Parks and wild life	5,653	278,686	—
Land, water, and power (excluding reclamation)	8,944	348,000	—

Source: U.S. Department of Labor, Bureau of Labor Statistics, Communication to the I.L.O.

It is estimated that this programme would provide 732,000 man-years of employment, on-site and off-site. The public con-

struction alone would furnish 290,000 man-years of on-site employment.[1] However, little of this programme was completely planned when the war ended; and even by mid-1946, fully planned projects of the Department of the Interior, exclusive of the Bureau of Reclamation, amounted to less than $100 million. The Public Buildings Administration had a programme of $125 million in some stage of planning, but very little of it was near completion in June 1946. The Veterans' Administration also had some construction projects to be undertaken under the "G.I. Bill of Rights", which authorised the appropriation of $500 million for construction of hospitals.

Corps of Engineers

A certain amount of civil works is carried out by the Corps of Engineers in the War Department. At the end of June 1944, the Corps of Engineers had a programme of $225 million worth of flood control projects completely planned and ready for contract. By June 1946, the fully prepared programme amounted to nearly $500 million. These projects were rather heavily concentrated in the Ohio River Valley and in the south-west and central west. The Corps also had some $150 million worth of river and harbour work fully planned, which could be started within one to three months.

Department of Agriculture

An extensive public works programme is being planned by the Department of Agriculture. Estimates of work needed for national forests alone run close to $2,000 million, and in addition some $700 million is needed for State forests. Expenditures on assistance to private forest land would amount to another $235 million, giving a total of nearly $3,000 million worth of forest work at 1941 prices. Most of this work is of a sort that could be started on short notice, and suspended without loss of the investment already undertaken. This $3,000 million programme is regarded as a long-range programme to be spread over a fifteen to twenty-year period, but the programme could be "telescoped" into a period of seven to ten years if necessary.

The Department of Agriculture has also compiled a large inventory of soil conservation projects. The total programme runs to 2 million man-years of work, of which half would be financed by the Federal Government, requiring an expenditure of some $1,500 million at 1941 prices. The programme is considered a fifteen- to

[1] These estimates were based on pre-war labour patterns, and accordingly may not be altogether accurate for post-war conditions.

[2] The Servicemen's Readjustment Act of 22 June 1944 (amended by an Act of 28 Dec. 1945).

twenty-year undertaking, but it could be completed within four or five years if the employment situation made such acceleration advisable. In addition, the Rural Electrification Administration of the Department of Agriculture envisages a programme of about $1,000 million (pre-war dollars), which would furnish 521,000 man-years of direct and indirect employment.[1]

Little of this work has been fully planned. At 30 June 1946, it appeared that the Department of Agriculture had less than $500 million of fully planned projects.

Federal Class II Programmes

In the past, roads and highways have constituted the major channel for public investment expenditures. During the 'twenties and 'thirties they accounted for about half the total public expenditure for construction, maintenance, and work relief. Highway construction averaged 16 per cent. of combined public and private construction during the two decades. Thus, if total annual construction in the post-war period reached a level of $15,000 million, a "normal" highway programme might be considered as $2,400 million. The Federal Aid Highway Act, passed in December 1944, provides for an annual outlay of $500 million for each of three post-war years, with the Federal Government contributing half the total cost. The Defense Highway Act of 13 July 1943 provided $50 million for pre-construction engineering of post-war projects, and the Government has agreed to spend $250 million on a 50-50 matching basis for highway construction in each of the first three post-war years. In addition, the Government has agreed to cover one third of the cost of land acquisition. Plans for roads and highways are further advanced than for most kinds of projects, and there is reason to suppose that the explanation lies in the higher degree of Federal assistance for road and highway projects. The status of planning for Federal-aid and State highways appears from the following figures of the estimated cost of construction in April 1944 and at the end of 1945 (in $ million)[2]:

Stage of plan preparation	1 April 1944	31 December 1945
Projects in completed stage	200.2	740.9
Projects in design stage	1,857.9	2,715.3
Total	2,058.1	3,456.2

[1] The Lucas Bill (S. 2029) would go far towards implementing this programme. The Bill authorises the Reconstruction Finance Corporation to lend to the Rural Electrification Administration $585 million over a four-year period.

[2] Cf. Federal Works Agency, Bureau of Community Facilities: *Report on Proposed Postwar Public Works* (Washington, D.C., 1944); and *Report on Plan Preparation of State and Local Public Works, 31 December 1945* (Washington, D.C., 1 Mar. 1946).

With regard to the Office of Education, there is before Congress a Bill (S. 637) providing for Federal assistance for education, including $100 million for "any purpose deemed essential to equalise educational opportunity". School construction could presumably be undertaken under the terms of the Bill, but this Bill had not been passed up to the spring of 1946, and at that time there was no indication that Federal funds for schools would be forthcoming.

The Public Health Service contemplates a ten-year construction programme of $6 million, of which the Federal Government is expected to provide approximately one half the funds. If necessary, the programme could be concentrated into a five-year period. Little, if any, of this programme was fully planned when war ended, and no Federal financial commitment had been made up to May 1946.

The Civil Aeronautics Administration has prepared a five-year programme amounting to $1,000 million for construction and improvement of airports. In March 1946 the Randall Bill (H.R. 5024) providing Federal aid for airports went through the conference stage and was later passed by the House. It directs the Civil Aeronautics Administrator to prepare a national plan for the development of public airports. A sum of $3 million is authorised for preliminary plans and surveys, and the Administration is empowered to make grants to the States (usually on a 50-50 matching basis) amounting to $500 million over the seven-year period beginning with the fiscal year 1946-47. Up to 5 per cent. of this amount can be used for planning. The Federal Works Agency Survey of December 1945 showed that State and local governments had $96 million worth of airports, terminals, and landing strips completely planned and $191 million in the design stage, 156 projects in all.

The Federal Public Housing Authority was handicapped by lack of funds in resuming its normal peacetime activities. Funds left over from the pre-war public housing programme were sufficient for only 25,000 low-cost units, and at the time of writing (spring 1946) the F.P.H.A. was concentrating on emergency housing for veterans, pending final action on the Wagner-Ellender-Taft Bill (S. 1592). This Bill, which passed the Senate on 16 April 1946, would provide $500 million for loans to local housing authorities, a sum rising over four years from $4 million to $20 million per year for Federal subsidies for rent reduction on public projects, and a maximum of $50 million annually for loans on urban redevelopment and slum clearance projects.

State and Local Governments

The financial status of State and local governments was considerably improved during the war as a consequence of the forcible

reduction of expenditures for public works, the virtual elimination of relief expenditures, and the increase in tax collections. Many States and cities have set up reserve accounts which could be used for post-war public investment. According to a Census study of March 1944, the State governments had reserves as follows:

	$ million
General fund	600
War and post-war reserves	100
Highway funds	350
Total	1,050

By the end of 1943, 25 States had passed legislation permitting local governments to set up reserve accounts. A survey made by the International City Management Association showed that at that time 117 cities with a population of over 25,000 had accumulated a total reserve of $87 million, and 153 cities with a population between 10,000 and 25,000 had reserves of $17 million. A more recent survey of the Federal Works Agency suggests that State and local governments must rely mainly on bond issues to finance their public investment programmes.[1] The 288 cities with a population of 10,000 or over had spent only $6.4 million on planning and blueprinting, while New York City alone had spent $21 million for the same purpose up to 31 December 1945.[2]

Surveys by the American Society of Planning Officials

Surveys of State and local public works have also been made by the American Society of Planning Officials.[3] The 1943 survey disclosed "an unparalleled amount of planning activity . . . during the past year". In three major cities (Philadelphia, Detroit, and Cincinnati) planning had been elevated to an election campaign issue. Planning boards had been established in 29 States. The results for cities with a population of over 25,000 are presented in table 47. The 1944 survey of the Society stressed the "lack of a unified national programme", the "general agreement that public works programmes will be inadequate to meet any large-scale unemployment", and the assumption of leadership in the field by the State governments. Following the example of New York State, which

[1] *Report on Plan Preparation of State and Local Public Works, op. cit.*, p. 15.

[2] Professional town planners have criticised the planning of New York City, contending that it is too much confined to the preparation of engineering plans and has produced no adequate over-all, long-run master plans. It would seem that if New York has erred, it has been on the side of spending too little for planning rather than too much; and by the same token, planning in the rest of the cities is totally inadequate.

[3] Cf. Walter H. BLUCHER: "Planning and Zoning, Developments in 1943", *Municipal Year Book*, pp. 316 *et seq.*; and "Planning and Zoning, Developments in 1944", *idem*, 1945, pp. 265 *et seq.*

in the previous year had appropriated $3 million for State aid in blueprinting municipal programmes, Michigan appropriated $5 million, New Jersey and Maryland half a million each, and California $10 million. The Illinois Post-War Planning Commission proposed, and the Governor endorsed, legislation providing that 20 per cent. of such State aid should be used for community planning. Illinois and North Carolina had broad programmes covering health, education, recreation, penal reform, industrial development, resource development, constitutional revision, and other projects. Three more States created planning agencies in 1944.

TABLE 47. SELECTED PLANNING DATA FOR CITIES WITH A POPULATION OF OVER 25,000, IN 1943

Population group (thousands)	Number of cities									
	In group	Reporting	With regular planning agencies				With post-war planning agencies	With master plans	Reporting debt reduction	
			No.	% of (c)	Doing post-war planning				No.	of 10% or more, 1940–42
					No.	% of (d)	% of (c)	% of (c)		% of (f)
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
Over 500	14	14	14	100	9	69	100	86	13	69
250-500	23	22	21	96	13	62	100	77	22	45
100-250	55	51	45	88	17	38	86	65	52	56
50-100	106	96	56	58	21	38	73	60	75	60
25-50	212	194	115	60	45	39	71	53	111	48
All cities over 25	410	377	251	66	105	42	76	59	273	53

Source: *Municipal Year Book*, 1944, p. 321.

According to the survey, "hundreds of new planning agencies were set up in cities and towns", but they were handicapped by "lack of a unified national planning policy" and "a shortage of competent planning personnel".

At the end of 1944, 72 per cent. of the cities of over 25,000, and all cities of over 250,000, had official planning agencies. These cities budgeted nearly $1 million more for planning in 1945 than they had in the previous year, and 40 per cent. of them were co-operating with other government units in regional planning projects. There was a 25 per cent. increase over 1942 in the number of these cities engaged in comprehensive planning. However, the planning budgets of most cities were small, and few plans were completed or approved by the city council.

The Federal Works Agency Survey

Under Title V of the War Mobilization and Reconversion Act of 1944, the Federal Works Administration is authorised to advance funds to State and local government authorities for planning public investment. These advances are to be repaid, without interest, when actual construction begins; and no advances are made without assurance that the applicants intend to carry out the project within four years and have the resources to finance it.[1] Up to the end of 1945, $30 million had been appropriated for such advances, and applications had been approved to the amount of $13.2 million. In connection with this programme, the Federal Works Agency made two surveys of State and local public investment planning, one in July 1944 and the other in December 1945. The results of the second of these surveys[2] with regard to the estimated construction cost of State and local public works projects are summarised in tables 48 and 49.

TABLE 48. ESTIMATED CONSTRUCTION COST OF PROPOSED PUBLIC WORKS OF STATE AND LOCAL GOVERNMENTS, AT 31 DECEMBER 1945

	$ thousand
Plans being completed under the War Mobilization and Reconversion Act	461,431
Plans completed or brought to design stage without Federal assistance:	
Completed stage	784,671
Design stage	3,622,722
Plans under Federal-aid and State highway programme:	
Completed stage	740,886
Design stage	2,715,306

Source: *Report on Plan Preparation of State and Local Public Works, op. cit.*, p. 4.

The surveys disclosed a status and rate of public investment planning considered unsatisfactory by the Federal Works Agency, which summed up the situation in the following terms:

Generally speaking, the progress made in plan preparations for State and local public works has been uneven during the past year. Considerable progress was achieved with respect to public works planned under the Federal-aid and

[1] As pointed out elsewhere (Benjamin HIGGINS: "The United States Public Work Reserve", *loc. cit.*, p. 22), advances under this Act will be helpful only in so far as State and local governments are able to finance their own public works — including planning costs — but lack legal authority to issue bonds for planning unless it is attached to an approved construction project.

[2] *Report on Plan Preparation of State and Local Public Works, op. cit.*

State highway programme. As for the State and local plan preparations carried on without any Federal aid, progress appears disappointingly small in the volume of completed projects; moreover, a very large proportion of such completed plans is concentrated in New York State. Greater progress appears to have been made in bringing plans to the design stage without Federal aid. But, as already indicated, a large portion of these plans may never be completed without Federal aid; and there are many communities which report no plans for public works either completed or in the design stage.

Considerable progress has been made through plan preparations aided by the Bureau of Community Facilities programme of planning advances, where the $13,248,000 already allocated will result in the completion of plans representing public works with a total cost of $564,932,000. Increases in planning funds available would greatly increase this amount . . .

The total volume of completed plan preparation falls far short of the volume of construction of State and local public works required to meet needs which may arise within the next few years. Additional emphasis should be placed on completion of drawings and specifications . . .

The Bureau of Community Facilities believes that the data contained in the present report strongly substantiate the view that the plan preparation of State and local public works should be encouraged and stimulated by Federal assistance through planning advances, to a larger and more adequate extent than has been possible with the very limited funds thus far made available for this purpose.[1]

The advances approved up to the end of 1945 represented projects with an estimated total cost of $565 million and a construction cost of $461 million; 71.3 per cent. of the construction cost consisted of sewer, water, and sanitation facilities, school and other educational facilities, and hospitals. Plans completed without Federal assistance covered projects costing less than $1,000 million, over half of which was concentrated in New York State, and over 40 per cent. in New York City alone. The total cost of plans in the design stage amounted to $4 million, but these were also concentrated heavily in a few States. Over 69 per cent. of the construction cost of projects in the completed stage, and 67 per cent. of those in the design stage, came from only 5 of the 48 States. Moreover, much of the planning in the design stage was in the very early phases of that stage.

Less than half the fully planned projects, in terms of cost, could be completed in less than a year, and less than a fifth could be finished in under six months. However, the average construction cost per fully planned project is less than $200,000, which is somewhat lower than the average cost of projects submitted to the Public Work Reserve.[2] It is reasonable to suppose, therefore, that the construction period for the majority of the projects would be under seven months.

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[1] *Ibid.*, pp. 3 and 7.
[2] See above, Ch. VIII.

TABLE 49. ESTIMATED CONSTRUCTION COST OF PROPOSED PUBLIC WORKS OF STATE AND LOCAL GOVERNMENTS BY TYPE OF PROJECT, 31 DECEMBER 1945

(*$ thousand*)

Type of project	Works for which applications for advances had been				Works completely planned without Federal aid			Works brought to design stage without Federal aid		
	Received		Approved		Number of projects	Estimated construction cost		Number of projects	Estimated construction cost	
	Amount	Percentage distribution	Amount	Percentage distribution		Amount	Percentage distribution		Amount	Percentage distribution
1. Highways, roads, and streets	66,553	4.8	13,898	3.0	866	101,085	12.9	1,075	524,565	14.5
2. Bridges, viaducts, and grade separations	72,549	5.3	14,936	3.2	269	51,237	6.5	289	151,511	4.2
3. Airports, terminals, and landing strips	27,881	2.0	3,610	0.8	45	95,614	12.2	111	191,064	5.3
4. Sewer, water, and sanitation facilities	526,687	38.3	204,628	44.3	1,162	206,341	26.3	1,872	1,007,810	27.8
5. Schools and other educational facilities	322,119	23.5	97,333	21.1	694	117,151	14.9	1,884	568,434	15.7
6. Hospitals and health facilities	69,752	5.1	27,004	5.9	97	40,338	5.2	184	100,992	2.8
7. Public buildings other than (5) and (6)	114,008	8.3	45,297	9.8	563	62,006	7.9	1,099	361,068	9.9
8. Parks and other recreational facilities	63,396	4.6	6,497	1.4	255	26,161	3.3	550	176,969	4.9
9. All other public facilities	110,938	8.1	48,228	10 5	128	84,738	10.8	242	540,309	14.9
Total	1,373,883	100.0	461,431	100.0	4,079	784,671	100.0	7,306	3,622,722	100.0

Source: *Report on Plan Preparation of State and Local Public Works, op. cit.*, pp. 14, 21, and 27.

Conclusions

The various surveys of public investment planning in the United States all suggest that the volume of carefully planned work that can be provided in the next few years will fall short of needs — whether measured in terms of product or of process effects — unless planning is accelerated in the near future. By June 1946, fully prepared public investment plans of Federal class I agencies amounted to less than $1,000 million. Among Federal class II agencies, only the Public Roads Administration has made significant progress; and even the road programme may fall short of needs. Judging from the Federal Works Agency survey, the programmes of State and local governments also amounted to less than $5,000 million. The actual appropriation granted by Congress to the Federal Works Agency up to November 1945 provided only $1,124 million for construction and $46 million for advance planning.[1]

The American Society of Civil Engineers Committee on Postwar Construction, using statistics gathered by the *Engineering News Record*, estimated in its bulletin for August 1945 that there were at that time $9,717 million of construction projects planned, of which $1,211 million were private projects, $967 million Federal Government projects, and $7,538 million State and local government projects. Of the total, however, less than $2,000 million were ready for bids. According to competent estimates, this amount may not be enough for a single year's operations if public investment is to play its proper role of maintaining employment after the transition period.

A common opinion among American experts on public investment is that expansion and acceleration of planning activities will require additional Federal aid, either for planning projects or for executing them, and possibly for both.[2] Some officials concerned with public works planning feel that the abolition of the National Resources Planning Board and the Public Work Reserve, together with the failure to give authority or funds for similar undertakings to any other agency, leaves the country with no adequate means of stimulating, guiding, and integrating public investment for the nation as a whole.[3]

While not directly concerned with public investment, the Em-

[1] National Association of Manufacturers: *N.A.M. News*, 17 Nov. 1945, p. 5.

[2] See, for example, Philip B. Fleming, Federal Works Administrator: *Postwar Public Works* (Washington, D.C., 1944), especially pp. 8-10, on "The Federal Government and Postwar Public Works".

[3] Walter H. Blucher, Executive Director of the American Society of Planning Officials, in speaking of the "unparalleled amount of planning activity" in 1943, states: "The exception was found at the national level, where a unified programme was still lacking" (*Municipal Year Book*, 1944, p.310). See also Philip B. Fleming, *op. cit.*, pp. 9-10.

ployment Act of 1946[1] will no doubt facilitate public investment planning at the national level. Under the Act, the Congress declares "that it is the continuing policy and responsibility of the Federal Government to use all practicable means consistent with its needs and obligations and other essential considerations of national policy, with the assistance and co-operation of industry, agriculture, labour, and State and local governments, to co-ordinate and utilise all its plans, functions, and resources for the purpose of creating and maintaining, in a manner calculated to foster and promote free competitive enterprise and the general welfare, conditions under which there will be afforded useful employment opportunities, including self-employment, for those able, willing, and seeking to work, and to promote maximum employment, production, and purchasing power". The Act further provides that the President shall transmit to Congress within 60 days of the opening of each regular session an Economic Report, setting forth the existing level of employment, production, and purchasing power, and the levels needed to carry out the above policy; current and foreseeable trends in employment; a review of Federal economic policy of the preceding year and its effect on employment; and a programme for carrying out the stated policy, with recommendations for legislation. Supplementary reports of the same character may be transmitted when deemed advisable.

The most significant portion of the Act creates within the Executive Office of the President a Council of Economic Advisers, consisting of three experts with salaries of $15,000 a year, and authorises an appropriation of $345,000 a year for the salaries of the members and staff of the Council. This Council is assigned the duties of preparing the Economic Report, providing the President with other studies of the employment situation, appraising the economic policy of the Government, recommending supplementary policies, and making an annual report each December.

The Act also establishes a Joint Committee on the Economic Report, composed of seven members of the Senate and seven members of the House, to study matters relating to the Economic Report and guide Congressional committees dealing with related legislation. The Joint Committee may hold hearings, hire experts, and publish results. An appropriation of $50,000 a year is authorised for these purposes.

There were before Congress at the time of writing a number of Bills designed to stimulate and assist the preparation of public investment programmes, in addition to those mentioned above. Perhaps the most important of these were the Lynch Bill (H.R.2783, 78th

[1] Public Law 304, 79th Congress, 2nd Session.

Congress, 1st Session) and the Thomas Bill (S.953, 78th Congress, 1st Session). The former would provide grants to States and localities for setting up planning agencies, preparing working drawings, surveys, and so forth. The latter would establish an Urban Redevelopment Agency, which would provide central direction of urban planning, as well as generous loans for planning and land acquisition. Together, these two Bills would probably bring forth an adequate volume of planned public investment. Other Bills would set up various river valley authorities similar to the present Tennessee Valley Authority.[1]

The House of Representatives Special Committee on Post-War Economic Policy and Planning (the Colmer Committee) has given somewhat qualified support to a Federal aid policy.[2] On the one hand, it has proclaimed that it "is opposed to a theory that large Government spending in itself can provide a satisfactory stimulus to sustain production and employment". On the other hand, it has recommended:

> . . . Federal grants-in-aid to be disbursed on a 50 per cent. "matching" basis to State and local authorities for the preparation of local plans and for direct technical counselling to achieve maximum speed, maximum usefulness, and correct timing of emergency public work in relation to economic conditions over the nation. Plans for needed Federal works, beyond the regular highway programmes and other usual peacetime activities, should likewise be expedited and coordinated. The facilities of the Bureau of the Budget, the War Production Board, and the Federal Works Agency, as well as of the operating departments, should be utilised.

The Committee has also promised to give "serious consideration" to the following proposal:

> That steps be taken to expedite the preparation by State and local governments of public works that might be undertaken during the immediate post-war reconversion period, to the end that these projects may be started without delay to provide jobs for veterans and displaced war workers.

It adds that:

> For the longer run the Federal Government, with its critical interest in the stabilising of employment, might well take steps to stimulate State and local agencies, and Federal agencies as well, toward the preparation of a reserve shelf of useful public work projects which can be put promptly into operation (or deferred) as economic conditions indicate. It has been suggested by the Committee that a continuing Federal grants-in-aid programme on a matching basis to assist in developing plans for approach to the whole public work problem would be appropriate. This should be done without awaiting a decision as to whether such works should be paid for out of Federal or State or local funds.

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[1] See above, p. 28.

[2] Fourth Report: *General Report on Economic Problems of the Reconversion Period*, 8 Sept. 1944.

CHAPTER XXI

CAPITAL-SCARCITY COUNTRIES

In countries less highly developed or less industrialised than those discussed in the previous chapters of this Part, national development is the primary objective of public investment planning. Public investment in industry, public expenditures undertaken to improve or enlarge private capital, and expenditures designed to raise the efficiency and productivity (and consequently the standard of living) of the workers, play a greater role than in the more industrialised countries. However, unemployment is a serious problem in some capital-scarcity countries and the maintenance of full employment is an objective of public investment policy in all such countries as well as in excess-savings countries. Complete coverage of the public investment plans of capital-scarcity countries is not possible in this study; but the present chapter presents a few examples for illustrative purposes.

INDIA

The Indian economy has undergone a substantial transformation as a consequence of the war and faces a serious unemployment problem. Army demobilisation plans called for release of some 850,000 men in the eight months following V.J. Day and about one million unskilled workers employed on defence projects could no longer be supported from Army expenditures.[1] In addition, millions of men were released from war industries. The extent of industrialisation in India during the war can be judged from the following figures:

TABLE 50. PERCENTAGE DISTRIBUTION OF INDIAN EXPORTS AND IMPORTS (VALUE) BY CATEGORY OF GOODS, 1938 AND 1944

Category	Exports		Imports	
	1938	1944	1938	1944
Foodstuffs	23.5	22.5	13.5	9.0
Raw materials	44.3	24.7	23.9	58.0
Manufactured goods	30.5	51.5	61.0	31.9
Other	1.7	1.3	1.6	1.1
Total	100.0	100.0	100.0	100.0

Source: RESERVE BANK OF INDIA: *Report of Currency and Finance for the year 1944-45* (Bombay, 1945), p. 29.

[1] Cf. *The Statesman* (Delhi), 9 Oct. 1945.

This rapid industrialisation naturally aggravates the post-war employment problem. Estimates of total workers directly displaced by cessation of war run as high as 5 to 7 million.[1]

The Reconstruction Committee of the Viceroy's Executive Council has defined the objectives of the post-war planning of the Central Government as follows:

> (*a*) The ultimate object of all planning must be to raise the standard of living of the people as a whole and to ensure employment for all. To that end, the purchasing power of the people must be increased by improvement in the efficiency and consequently the productivity of labour on the one hand, and a simultaneous development and reorganisation of agriculture, industries, and services on the other . . .
>
> (*b*) Improvement in living conditions and increase in purchasing power will fail in their effect if they do not result in a more equitable distribution of the wealth that is produced. Planning as here contemplated will inevitably result in . . . the removal of the existing glaring anomaly of immense wealth side by side with abject poverty.[2]

These main objectives are elaborated in terms of more specific aims, short-term and long-term. The short-term objectives, in India as elsewhere, consist in the reabsorption into peacetime pursuits of personnel displaced from the armed forces and war industry, the orderly disposal of military surpluses, the reconversion of industries, and the removal of unnecessary controls. The long-term aims include the development of electric power, the development of industry, the development of transport facilities, and improvements in agriculture. In addition, the Government proposes to lay the foundations of improved education, health, and housing.

Public investment will have a large role to play in the achievement of these objectives. The scope of public enterprise is already wide in India, including ordnance factories, public utilities, and railways as well as public works of the usual sort; and the Government plans to extend the range of public investment further. The bulk generation of electric power is to be a State concern, and if adequate private capital is not forthcoming, basic industries such as aircraft, automobiles and tractors, chemicals and dyes, iron and steel, prime movers, transport vehicles, electrical machinery, machine tools, electro-chemical and non-ferrous metal industries will be nationalised. The State will share with private capital the responsibility for shipbuilding and the manufacture of locomotives and boilers, and consideration is being given to the nationalisation of the coal industry.[3] The Government has under consideration a

[1] Cf. *Indian Affairs* (London), Vol. V, No. 2, 17 Jan. 1946.

[2] RECONSTRUCTION COMMITTEE OF COUNCIL: *Second Report on Reconstruction Planning* (New Delhi, 1944), pp. 2-3.

[3] PLANNING AND DEVELOPMENT DEPARTMENT: *Statement of Government's Industrial Policy* (New Delhi, 1945), pp. 4-5.

plan for housing workers employed in its own industrial establishments, and a Building Research Section is being established by the Council of Scientific and Industrial Research to study prefabrication, standardisation, mass production of fittings, and so forth.

The engineering industry is even more dependent upon public investment in India than it is in other countries. It prospered during the 'twenties, when a fair amount of public investment was undertaken, and suffered severe depression in the 'thirties as a result of retrenchment by public authorities. During the war the engineering industry underwent a considerable expansion as a result of growing Government demands and of Government schemes for training skilled engineering workers.[1] The Government accordingly feels a special responsibility for stabilising these industries. Employment in other publicly owned industries also underwent large percentage increases between 1939 and 1943: clothing, 1,350 per cent.; dockyards, 160 per cent.; railways, 66 per cent.; mints, 250 per cent.; and miscellaneous industries, 280 per cent.

Public investment in India is to be fitted into an all-India plan, laid out for 15 years in advance, except for special fields. The plan for roads and transport, for example, is a ten-year plan, and the Central Advisory Board's plan for education covers forty years. There is to be a detailed five-year plan for projects of the Central Government, and it is hoped that each province, and each Indian State of suitable size, will also prepare detailed five-year plans. Several of the larger States (Baroda, Hyderabad, Jaipur, Mysore, Travancore) are already engaged in detailed planning of public health, education, agricultural improvements, and other aspects of national development. Since March 1943, reconstruction planning has been co-ordinated by a Committee of the Viceroy's Council, composed of officials of the Central, provincial, and State governments, experts, and representatives of trade, industry, and labour. Among the various subcommittees set up to study special problems, there are three specifically concerned with public investment: railways, ports, and inland water transport, roads and road transport; postal, telegraph, telephone, and air communications; electric power, water supply, mining, and miscellaneous public works. The subcommittee for agriculture, forestry, and fisheries is also concerned to some extent with public investment.

Agricultural projects are of special importance in India. Some 70 per cent. of the Indian population is dependent on agriculture, and the level of productivity is so low that the spectre of famine continuously haunts the people. In 1943, for example, 1.5 million

[1] The number of workers in engineering firms subject to the Indian Factories Act rose from 156 in 1939 (8 in public and 148 in private undertakings) to 277 in 1943 (23 public, 254 private) (*Indian Labour Gazette*, Oct. 1944).

people died of starvation in Bengal. Thus any substantial diversion of labour to industry is dependent on an increase in the food supply, through increased productivity or imports, or both. Moreover, unemployment in India is chiefly an agricultural problem, and is largely seasonal in nature.[1] The purposes of the public investment projects in the field of agriculture include land reclamation, afforestation, soil preservation, and irrigation. It is interesting to note that many of the projects planned in this field are of the non-construction and human improvement variety: research, adult education (by methods which include the use of films, broadcasts, and gramophone records), training of experts, collection and processing of statistics, provision of fertilisers and seed, improvement of livestock breeds, establishment of experimental farms, and so forth. Indeed, the main project for the elimination of seasonal unemployment in agriculture is one of diversification and crop planning.[2]

The Reconstruction Committee considers that the development of roads and road transport must be co-ordinated by a central authority, and that plans for road transport must be integrated with plans for railroad development. Such plans include not only road construction, but the production of necessary materials and equipment in India.

The plan of the Railway Board, which would extend over a period of seven years, includes repairs and replacement of rolling stock, establishment of shops for the manufacture of locomotives and other equipment, as well as the opening of new lines.[3]

Non-construction and human improvement investments play an important part in other fields besides agriculture. Schemes for civil aviation include the training of technical personnel as well

[1] "The main problem of unemployment arises in agriculture, where the worker on the field has to be idle for long periods in the year" (RECONSTRUCTION COMMITTEE, *Second Report, op. cit.*, p. 18).

[2] *Ibid.*, pp. 18, 35-42.

[3] The programme is summarised in the following table, the estimated cost for each of the seven years being given in million rupees:

Type of project	Year							Total
	1st	2nd	3rd	4th	5th	6th	7th	
Rehabilitation	100	150	200	200	200	200	200	1,250
Improvements:								
Operative	10	40	80	80	80	80	80	450
Staff welfare	30	50	80	80	80	80	80	480
Amenities for 3rd class passengers	10	40	80	80	80	80	80	450
New lines	10	50	100	100	100	100	100	560
Total	160	330	540	540	540	540	540	3,190

Source: RECONSTRUCTION COMMITTEE, *Second Report, op. cit.*, p. 30.

as the construction of airports. The programme of the Central Technical Power Board envisages the setting up of a standardising, testing, and research organisation, and propaganda and public education to encourage the use of electricity. In order to carry out the industrial development projects, it is proposed to send industrialists to the United Kingdom and the United States to obtain information on modern techniques. Extensive geological surveys will be undertaken with a view to the development of mining.

According to the Reconstruction Committee, it was expected in 1944 that the Central and provincial governments would be able to devote for the purpose of reconstruction about 10,000 million rupees in the first five-year period (1947-48 to 1951-52), at least half of which would be loan financed. It was believed that the creation of regional authorities, along the lines of the Tennessee Valley Authority, would facilitate the execution of some of the projects.

Later estimates indicate considerable telescoping of this programme. In presenting his budget for 1947, the Finance Member of the Viceroy's Council, Sir Archibald Rowlands, made provision for 270 million rupees' worth of expenditure on development projects, and for an additional outlay of 220 million rupees on railways. An interesting feature of the budget was its division into capital and revenue budgets, which Sir Archibald declared to be the first step towards annual presentation of a national investment budget along with the ordinary annual budget. He also announced the establishment of a committee to study the whole Central, provincial, and local tax structure, with a view to putting it on a more scientific basis.[1]

In the years 1945-46 and 1946-47 the provinces propose to carry out development works costing 833.6 million rupees, part of the money being advanced by the Central Government and part being obtained from provincial resources.

LATIN AMERICA

Argentine Republic

Post-war planning in Argentina is the responsibility of the Vice-President of the Republic. A National Council for Post-War Planning has been set up under the chairmanship of the Vice-President to advise him on the planning and co-ordination of a national social and economic policy.[2] A Vice-Presidential Order of 26 January 1945 provided that the Permanent Interministerial Committee on Economic Policy should serve as a technical subcommittee of the

[1] *The Times* (London), 1 Mar. 1946 (New Delhi despatch, 28 Feb. 1946).
[2] Decree of 25 Aug. 1944, *Boletín Oficial*, 9 Sept. 1944.

National Council in matters concerning international trade, and created subcommittees on industrial orientation and industrial defence.[1]

Among the short-term objectives of public investment policy are the reconversion of industries and the re-employment of displaced personnel. Among the long-term objectives are the development of industry and transportation facilities and improvements in agriculture, education, health, and housing. A Decree of 15 January 1945 provides for a five-year programme of public works, involving the expenditure of 1,250 million pesos, or 13 per cent. of the national income for 1941. The programme includes roads, railways, canals, irrigation, hydro-electric plants, drinking water, drains, pipe-lines, police stations, works connected with national defence, houses for workers, hospitals, and schools.[2] Under this general scheme, public works expenditures for 1945 were originally set at a maximum of 343 million pesos as compared with planned public works expenditures of 319 million pesos in 1944. This included, *inter alia*, the following items:

	million pesos
Sanitary works	70
Navigation, harbours and barges	44
Government buildings	30
State railroads	28
Irrigation	20
National airport	20

The Government issued a Decree on 20 January 1945 authorising the building of a dam over the Río Quinto at La Florida in the province of San Luis. An aqueduct from this dam to the Cruz de Piedra dam will also be built. The cost of the dam is estimated at 9,100,000 pesos and that of the aqueduct at 3,750,000 pesos. The dam and aqueduct will provide drinking water for the inhabitants of the City of San Luis and neighbouring villages and will irrigate 12,000 hectares of land.

A Decree was issued on 2 February 1945, authorising the expenditure of 100 million pesos for building schools in the provinces. The money was taken from unused credits previously appropriated for the purchase of armaments. The preamble to the Decree stated that, although the requirements of national defence could not be neglected, the need for schools was urgent, since many schools were at present functioning in unsuitable buildings, which endangered the health of children.[3]

An Advisory Committee on Workers' Housing has been created.

[1] *Boletín Oficial*, 3 Feb. 1945.
[2] *Idem*, 27 Jan. 1945.
[3] *Idem*, 12 Apr. 1945.

Another and older agency, the Low-Cost Housing Commission, is likewise engaged in the erection of houses and apartment buildings. Following the lead of the National Government, the provinces and municipalities are also making plans for housing improvements.

Chile

The principal items in the Chilean Government's post-war programme are large-scale public works, the development of agriculture in accordance with the agrarian plan, and the development of mining and manufacturing. The six-year public works plan, which will cost 6,600 million pesos[1], includes the following items:

	million pesos
Roads, bridges, railways, irrigation works	400
Water works and drainage	600
Port works	500
Sports grounds	100
Government buildings, schools	1,500
People's Credit Fund	500

A Decree issued on 15 February 1946 authorised the expenditure of 500 million pesos to carry out the public works plan for 1946. The 1946 budget allocated the 500 million pesos in the following proportions[2]:

	million pesos
Irrigation works	106
Roads, bridges, etc.	106
Railways (lines, stations, etc.)	62
Water works, drainage	53
Port works	53
Government buildings, sports grounds	62
University of Chile, salaries and various	54

The agrarian plan "aims at reorganising the whole industry on a more scientific basis, raising the standard of living of the rural population, increasing facilities for agricultural labourers to acquire technical knowledge and education, improving rural roads and communications, establishing experimental stations, extending irrigation and fostering mechanisation". The Government feels that it must play an important role in the development and control of all agricultural activities, since only by State co-operation in a long-term programme can the agricultural industry in Chile be placed on a sound basis.[3]

[1] Cf. *La Nación* (Santiago de Chile), 7 May 1944; *El Mercurio* (Santiago de Chile), 6 May 1944.
[2] *Diario Oficial*, 20 Feb. 1946.
[3] *El Mercurio*, 17 Feb. 1945.

The country has embarked upon an ambitious industrialisation programme, with the Development Corporation (*Corporación de Fomento*), a body set up to undertake large projects beyond the capacity of private enterprise, playing a major part. In order to facilitate imports of goods needed for the normal development of its plans for industry, agriculture, power and fuels, mining, and commerce and transportation, the Corporation has opened an office in the United States. Extensive construction activities were also planned by the Corporation during 1945. It is giving preference to the following plans: (*a*) continuation and completion of the electrification plan; (*b*) establishment of iron and steel industries; (*c*) investigations for oil deposits; (*d*) plans for afforestation; and (*e*) development of the fishing and timber industries. The improvement and extension of irrigation is to be accomplished by building new dams and canals. The building of additional sawmills, impregnating plants, and a factory to manufacture wood cellulose, and the enlargement of facilities for producing plywood are planned. The plans also include the construction of chemical plants, several cold-storage plants, and hydro-electric plants, especially for rural electrification.

Construction planned in Chile for the post-war period will require the expenditure of approximately 8,000 million pesos for private dwellings and factories, Government-financed housing programmes, and Government buildings. A five-year project for houses and offices has been announced, through which the National Insurance Fund for Public Employees and Journalists plans to construct houses and office buildings valued at approximately 9,484,000 pesos. More hotels for tourists are also in prospect.

These activities are already showing results. The Pilmaiquín electric plant, which has an initial capacity of 12,000 hp., was officially opened in November 1945. A beginning has also been made in the manufacture of tins, and a motion picture studio, Chile Films, has begun work. The enlargement of the El Melón cement plant at Da Caldera will make possible an increased production of 100,000 tons per year. The Juan Soldado cement plant, with a capacity of 200,000 tons, was expected to begin operations in April 1946.

Ecuador

On 9 August 1944 the Government of Ecuador issued a Decree providing a plan for the economic development of the country, and for raising the standard of living through an increase in the production of foodstuffs and of the raw materials needed for setting up new industries. For this purpose, the Economic Development

Bank was to open two new departments — one for agricultural credit and the other for industrial credit. The investment policy of the Bank is directed by the Ministry of Economic Affairs. The Decree also empowered this Ministry to set up land settlement centres, grant help in money or in kind to prospective settlers, and undertake special measures for establishing co-operatives and agricultural training centres.[1] Before these provisions became effective on 26 June 1944 the Government had issued Decree No. 193 to create a land settlement department in the Ministry of Agriculture. This Decree also provides that the Ministry of Agriculture shall set up farms varying in size according to the crop and the region, subject to a maximum of 100 hectares. The cost will be met by the Economic Development Bank, and regulations will be issued to provide for the allocation of the farms.[2]

A Presidential Decree, No. 258 of 1 July 1944, provides for irrigation and land drainage projects. According to this Decree, the Ministry of Public Works is responsible for studying and carrying out irrigation projects and projects for land drainage in flooded areas. The Decree sets down in detail the powers of the Ministry, and states that it may collaborate with other public authorities and with private institutions and individuals interested in irrigation. The works are to be financed by a variety of means, including a 2 per cent. levy on the total yearly revenue, the income from certain special taxes already in force, mortgage bonds issued with a State guarantee by the Economic Development Bank, and "irrigation bonds" issued by the Ministry of Public Works. The Social Insurance Fund and the Pension Fund must invest 40 per cent. of their income each year in mortgage bonds and 20 per cent. in irrigation bonds. In addition they must, during the first two years, advance 10 million sucres to the Ministry of Public Works for carrying out public works in the province of Chimborazo.[3]

Subsequent post-war planning, as approved by the President on 23 January 1945, has emphasised the immediate development of Ecuador's national resources and industries. It is divided into three parts, covering agriculture, stockraising, and industry. On the industrial side, the first step is to be a detailed study of national possibilities for industry and mining. Among the specific projects to be undertaken immediately are a rural housing programme, the exploitation of phosphate rock deposits for the manufacture of fertilisers, an improved technique in placer gold mining, a cement plant, a cellulose factory, and the production of inedible and edible oils by producer co-operatives. A fishing industry is also to be set

[1] *Registro Oficial*, 29 Aug. 1944.
[2] *Idem*, 13 July 1944.
[3] *Idem*, 13 July 1944.

up on a co-operative basis and to be financed by the National Development Bank.[1] The budget for 1945, totalling 356,235,000 sucres, allocated 95,840,000 sucres for highways and public works, an increase of 71,046,000 sucres over the preceding year.[2]

Mexico

In June 1944, the Mexican Government set up a Federal Commission for Industrial Development, to offer temporary guidance to new enterprises, to restrain harmful competition, to draw up an industrialisation plan for Mexico, to plan, organise, and direct the proper use of the country's natural resources and to promote, organise and finance new and essential industries.[3] Believing that an economy based principally on exports is likely to be unstable, Mexico is trying to increase home consumption and to facilitate domestic trade in the agricultural and industrial commodities which it is capable of producing. It is felt that a significant increase in the domestic commerce of Mexico is retarded, not only by the low purchasing power of a very large part of the Mexican population, but also by the incomplete development of communications and transportation. Present facilities are considered inadequate even for full utilisation of the rail and highway routes which Mexico already has. The mixed regional economic councils and the municipal and social economic councils are playing important roles in meeting these problems.

In December 1944 the Minister of Economic Affairs presented to the President of the Republic an electrification project for the cities of Tomata, Minas, Tonhita, Veracruz, and Ixtapantongo. This project called for the expenditure of 100 million pesos and provided for an aggregate production of 190,000 hp., an increase of 45 per cent. over existing capacities.[4]

Peru

The processing of Peruvian mineral production is the outstanding feature of Peru's post-war planning policy. It is hoped that ultimately most of Peru's mineral output can be refined within the country. Among the projects undertaken in this connection are the installation of blast furnaces in Chimbote, development of gold refineries, and more extensive industrialisation of the petroleum, copper, silver, lead, tungsten, vanadium, and molybdenum industries. The Bureau of Mines and Petroleum is planning a geo-

[1] Decree No. 91 (*idem*, 26 Jan. 1945).
[2] Information communicated by the I.L.O. Correspondent, Quito.
[3] Decree dated 1 June 1944 (*Diario Oficial*, 1 July 1944).
[4] Information communicated by the I.L.O. Correspondent, Mexico City.

logical map of the country, in connection with the Santa Corporation's plan to develop the nation's iron and steel industry.[1]

Irrigation and drinking water projects play a prominent part in Peru's planning. The Ministry of Public Works has appropriated 6,098,178 soles for the rehabilitation of the Azucarero Canal in the Tacna Valley. The project, when completed, will irrigate 2,000 hectares of land permanently, and an additional 1,000 during the summer months. Other projects for irrigation and water works include one for the province of Aija amounting to 57,845 soles, one for the "Pampas de Sicaya" of 27,600 soles, drainage in Ica 590,752 soles[2], drainage of the lagoons of Chimbote[3], and the irrigation of 2,000 hectares in Chisicata.

Work has been started on a national tuberculosis hospital near Lima. Building plans provide for complete medical laboratories, a series of pavilions for the treatment of patients, and various workshops and gardens for occupational therapy. Similar hospitals or dispensaries are planned for all cities with a population of over 10,000. This project will call for the expenditure of 40 million soles over a period of several years, and will involve a maintenance cost of 7 million soles annually.[4]

The Government has also authorised the continuation of the following public works: a stadium in Bellavista, a new national library, the enlargement of the "Paseo de la República", in Lima[5]; public markets in Lima and Callao, a hospital in San Antonio, a national library in Lima, a dike in Callao, an agricultural experimental station in Cingo Maria; a national school for engineers, a military school in Charrillos; the construction of a sports field in Azangaro[6]; and the building and improvements of aerodromes.[7]

Uruguay

The Congress of Uruguay approved an Act on 20 December 1944, authorising the issuance of bonds in the sum of 70 million pesos to finance a five-year public works programme. The bonds will draw interest of 5 per cent. per year, payable quarterly, and the proceeds are to be made available at the rate of 14 million pesos a year for five years. The money will be used as follows: 40 million

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[1] Cf. U.S. DEPARTMENT OF COMMERCE: *Foreign Commerce Weekly*, 27 Jan. 1945, p. 28.
[2] Presidential Order of 22 May 1944.
[3] Presidential Decree of 23 Feb. 1945 (*Revista de Legislación Peruana*, 28 Feb. 1944).
[4] Information communicated by the I.L.O. Correspondent, Lima.
[5] Presidential Orders of 18 Mar., 20 and 24 Apr. 1944 (*Revista de Legislación Peruana*, Mar. and Apr. 1944.
[6] Presidential Order of 10 June 1944).
[7] Information communicated by the I.L.O. Correspondent, Lima.

pesos for a highways programme; and 30 million pesos for various works, including port and hydrographic installations, irrigation work, railroads, construction of military, educational, hospital, police and other public buildings, afforestation, land reclamation, and water supply. To finance the highway share of the new debt, a special highway treasury account has been established, to which the proceeds of several specified taxes — gasoline, fuel oil, motor vehicle, rural property, and others — are allocated. The other portion of the debt will be serviced from general revenues, to which the proceeds of certain additional gasoline taxes are allocated for that specific purpose, as well as other special funds.[1]

Uruguay has been, is, and will be for many decades yet to come, a stock-raising nation. It is estimated that in order to improve the ranches by better stock and pasture, by more shelters for sheep, and by convenient housing for farm workers, ten, twenty or thirty pesos must be expended in new improvements for each hundred pesos of land value.

Building permits granted at Montevideo during 1944 were valued at 25,853,000 pesos, a sharp increase over those of the preceding year, which were valued at 14,423,000 pesos. Expenditures for public works during 1944 totalled 49,430,000 pesos, compared with 44,737,000 pesos during 1943.[2]

Low-cost housing is receiving widespread attention in Uruguay. On 20 November 1943 an Act was passed respecting the construction of low-price houses through borrowing.[3] The Government later issued an Order authorising the building of a bridge over the Río Negro for the Sarandi del Yi al Norte Railroad[4], and two Acts for the construction of bridges over the same river at Mercedes and San Gregorio.[5] An Act of 22 November 1944 authorised the issuance of bonds in the sum of 10 million pesos to finance the construction of schools.[6] The administration of this Act was regulated by a Decree of 15 December 1944.

Venezuela

Venezuela is completing a five-year public works programme begun in 1941. Some 144 million bolivares were appropriated for the fiscal year 1945-46 to carry on the programme. Building construction and improvements to property will account for 37,290,000 bolivares; construction of sewers will cost 16,551,050 bolivares;

[1] *Diario Oficial*, 9 Jan. 1945.
[2] Information communicated by the I.L.O. Correspondent, Montevideo.
[3] *Diario Oficial*, 9 Dec. 1943.
[4] Order of 28 Jan. 1944 (*idem*, 4 Feb. 1944).
[5] Acts of 11 Aug. 1944 (*idem*, 18 Aug. and 9 Sept. 1944).
[6] *Idem*, 2 Dec. 1944.

five aerodromes are to be built at a cost of 5,050,000 bolivares; 2,100,000 bolivares will be spent on irrigation projects.

Building construction and improvements to property in Venezuela are part of the public investment programme to avoid post-war unemployment. One of the undertakings of the Government is the large housing project in Caracas. The project, which covers an area of almost 25 acres, calls for the expenditure of 33,692,402 bolivares, of which 32 per cent. will be used for buildings, 25 per cent. for streets, and the remaining 43 per cent. for open ground. The open spaces are being made into parks, a general sports field and a plaza, the largest in the capital. El Silencio is said to be the largest single housing edifice in South America[1].

On 5 July 1944 the Government issued a series of Decrees authorising a number of public works that were not provided for in the 1944-45 budget. Among these works were the construction of two schools, each with a capacity of 750 pupils; a warehouse for coastal trade in the port of La Cruz, two new buildings for public health[2]; one airport in Maracaibo and another in Barcelona; and the construction of sewers in Maiquetía. A supplementary credit of 225,000 bolivares was provided for the airports and the sewers[3]. A further Decree authorised the construction of four more sewers in Caracas, Rubio, Colón, and San Antonio respectively and provided 5,587,860 bolivares to finance them.[4] Decree No. 145 authorised the establishment of a colony for lepers in the department of Vargas, Federal District, at a cost of 3,000,000 bolivares. A University City is also rising in Caracas.[5]

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[1] Information communicated by the I.L.O. Correspondent, Montevideo.
[2] Decree No. 141 of 5 July 1944 (*Diario Oficial*, No. 21451, 6 July 1944).
[3] Decree No. 143 of 5 July 1944 (*ibid.*).
[4] Decree No. 144 of 5 July 1944 (*ibid.*).
[5] Decree No. 142 of 5 July 1944 (*Ibid.*).

CHAPTER XXII

SUMMARY AND CONCLUSIONS

The international importance of timing public investment so as to help in maintaining full employment has long been recognised by the International Labour Organisation. Projects requiring international finance, or involving two or more countries, are obviously matters of international concern; but domestic public investment policy, with which this Report is concerned, also has significant international aspects. First, unemployment in one country tends to spread to other countries through contraction of the volume of world trade, and, conversely, prosperity in one country tends to improve economic conditions in other countries. Some countries and regions are more affected by the public investment policies of other countries than they are by their own public investment. Properly planned and timed public investment, by assisting with reconstruction, national development, and the maintenance of full employment in each country, can help to guarantee prosperity to all countries. Second, a common approach to public investment policy will simplify the problem of stabilising foreign exchange rates. Third, efficient planning of domestic public investment requires integration with the planning of international investment. Fourth, by ensuring full employment and enhancing the mobility of labour and resources, public investment can ease the transition to a freer international trade, and facilitate the adjustments involved in the making and repayment of international loans. Fifth, efficient domestic planning in each country — by private firms and individuals as well as by public authorities — requires knowledge of the plans, including public investment plans, of other countries. Sixth, international exchange of experience and statistics in the field of public investment can add to the efficiency of public investment policy everywhere.

Public Investment in the Post-War World

The Nature of the Employment Problem

Past experience provides some indication of the kind of post-war cyclical patterns for which it may be necessary to plan public invest-

ment: minor recession of a few months, a year or two of inflationary boom, deflation leading to deep but short depression, recovery and prosperity, deep and prolonged depression. The last phase, that of secondary post-war depression, is more to be feared than the post-war recession or depression. Fiscal and monetary policy seems to play a dominant role in such fluctuations.

The scale of World War II was so much greater than that of any previous war, in terms of the proportion of productive resources devoted to war, the increases in national incomes and national debts, devastation, and the piled-up demand for durable and semi-durable goods, that projections of previous post-war experience may be misleading. It is safer to take all known factors into account, and make forecasts of the size and composition of the gross national product month by month for several years ahead, and so to get a general impression of the problem to be faced. For devastated countries, past experience is particularly unreliable, and the needs must be assessed in terms of the current situation. For undeveloped countries, past experience with international lending provides some guidance.

Even when the post-war period proper is over, various types of economic fluctuation, and the accompanying unemployment, will have to be offset: seasonal cycles, forty-month cycles, trade cycles of about nine years, and, possibly, long-wave fifty-year cycles and chronic unemployment (secular stagnation) as well. Any of these types of unemployment may be general or partial. However, the fundamental solution to all of them is the same: a sufficient flow of total expenditures — public and private — combined with a high degree of mobility of labour and resources. Special treatment may be required, however, for particular areas, industries, and occupations.

The Role of Public Investment in General Economic Policy

In determining the proper size and composition of a public investment programme, attention must be given to two separate kinds of effects: the direct contribution to social welfare of the end-products themselves (product effects), and the stimulation of income and employment through the mere process of undertaking projects and paying for them (process effects). The process effects, apart from the primary effects on income and employment, can be broken down in turn into four chief types: secondary increases in consumer spending out of the income generated directly by public investment (multiplier effects); new streams of consumer spending induced indirectly by the public investment (induced private consumption); new private investment stimulated directly by the demand for ma-

terials and equipment utilised in public investment projects (relation effects); and new streams of private investment induced indirectly by the public investment (induced private investment). These various kinds of effect interact upon each other and their combined influence on income and employment may be several times as big as the initial effect of the public investment. When full employment already exists, process effects can operate in a downward direction only; for example, failure to replace war expenditures by other forms of spending (public or private) could lead to a drop in employment many times greater than the number of workers initially discharged.

For purposes of public investment policy, countries may be divided into two categories, namely, devastated and undeveloped countries (capital-scarcity countries) and undevastated belligerents and affected neutrals that are highly industrialised (excess-savings countries). In excess-savings countries, there may be a need for public investment to maintain full employment during the reconversion period, but this will diminish as piled-up demand is released, and then increase again as piled-up demand is exhausted. The programme might consist partly of projects that can be completed within six months to a year, but might also consist partly of projects of longer duration. To meet temporary unemployment of a few months' duration, human improvement projects (public services such as health, education, etc.) have considerable advantages. Construction projects should probably not be planned to stabilise the economy as a whole, but to stabilise the construction industry at a high, and gradually rising, level of activity. However, when purchases of equipment are included in the concept of public investment, the programme should aim also at stabilising the equipment industries concerned; and if human improvements are included in the concept, the objective can be broader still. If fluctuations in private investment diminish after several years of economic stability, many of the objections to using public investment to fill the entire deflationary gap will be overcome.

In capital-scarcity countries, where reconstruction and development will be the major aims, the problem of timing takes a somewhat different form. Variations in the magnitude of the programme may bear only a loose relationship to the employment situation, since the needs will often be too pressing in the next few years to permit postponement of many projects. However, these countries will meet the same sort of barriers to rapid expansion of public investment as the excess-savings countries; and it is desirable that they should plan their public investment (and other economic policies) so as to permit neither inflation nor unemployment, estab-

lish social and economic priorities for projects, and execute projects as efficiently as possible on the basis of integrated plans.

Financial Principles and Problems in Timing Public Investment

The process effects of public investment depend to a large extent on the method by which they are financed. The collection of business or personal income taxes tends to restrict consumer spending, because in themselves such taxes reduce disposable income. High taxes on business profits or personal income may discourage private investment. Consequently, the process effects of public investment will tend to vary inversely with the extent to which the expenditures are covered by taxes. The same argument applies to collecting fees or charging prices for public services. It is true that a tax-financed or otherwise self-liquidating programme can have positive secondary effects on income and employment if a redistribution of income from savers to spenders is accomplished, or if there is a lag between the direct effects on income of expenditures and tax collections. In general, however, the volume of expenditures in public investment necessary to maintain full employment will vary inversely with the extent to which the programme is financed by borrowing.

It is possible that deficit-financed public investment will have a discouraging influence on private investment, but it should be possible to avoid such an influence by public education to dispel unfounded fears concerning national debts, by gearing the tax structure to the debt structure, by maintaining an adequate flow of credit to private enterprise at low rates of interest, and by other measures (such as sharing of losses) to improve profit expectations.

The Principle of Compensatory Spending

There are many serious obstacles to smooth timing of the physical volume of public investment, but the financing can be flexible. If any substantial public investment programme is being undertaken for its product effects, considerable economic control can be exerted merely by varying the financing of the programme.

Some of the misapprehension concerning deficit financing might be removed if Government books were kept in closer accord with corporate accounting practice. Extraordinary outlays resulting in a capital or human improvement might be treated as assets, and relegated to a capital budget that is automatically balanced. Ordinary expenditures, including interest and depreciation on items in the capital budget, might go into the operating budget, which

might be balanced over the trade cycle as a whole. State monopolies, Government corporations, and so forth, could have annexed budgets, which would also appear balanced in most cases. Such a system would preserve the budget as a check on the soundness of outlays, and still leave sufficient flexibility to meet any employment situation that might arise.

There seem to be two main dangers to be guarded against in deficit financing. First, the closer the approach to full employment, and the larger the volume of liquid assets in the hands of the public, the greater the possibility of inflation and the more watchful the fiscal authorities must be to prevent it. Second, the servicing of a national debt may lead to increased maldistribution of income, unless the tax structure is geared to the debt structure so as to make the debt service neutral in this respect.[1] The accumulation of reserves in prosperity and their exhaustion in depression do not appear to have any clear-cut advantages over deficit financing. The basic relationship between necessary expenditures and potential reserves over the trade cycle as a whole is not altered by the use of reserves, which is therefore no more "sound" than deficit financing. Moreover, the reserve system may lead to more awkward complications for the banking system.

In economically advanced countries, the bulk of public investment in peacetime is undertaken by local governments (State, provincial, and cantonal governments, local authorities, and other public authorities). Consequently, the public investment policy of local governments has a greater contribution to make to economic stability and national development than the public investment policy of central Governments. Local governments are more limited than central Governments in their ability to undertake fiscal timing. Much of their expenditure is of a sort that cannot be postponed or reduced when the level of employment is high. In addition, they are to a large extent dependent for their revenue upon regressive taxes, such as real estate and commodity taxes. While it is nearly always desirable to lower such taxes, it is seldom desirable to raise them, and any Government dependent upon them for a large share of its revenue is handicapped in any effort to adopt a compensatory fiscal policy. The borrowing capacity of local governments is also more limited than that of central Governments. Consequently an adequate system for sharing the revenue of central

[1] However, deficit-financed public investment will in most cases lead to less maldistribution of income than the private investment it replaces, since the ownership of private capital is even more heavily concentrated in the upper income groups than the ownership of Government debt, and the rates of return on Government obligations are lower than on private capital (cf. Evsey DOMAR, *loc. cit.*).

Governments with local governments through grants-in-aid, would seem to be a prerequisite to effective use of public investment as a weapon against unemployment. While most countries have some form of grants-in-aid, few countries possess the scope and organisation necessary for the execution of a timing policy. It would be almost impossible to devise a formula for grants-in-aid that would cover all the complexities of determining the right volume of grants to be made to a particular local government at a particular time, and a wide area of administrative discretion is probably unavoidable.

Because of the limitations on the financial capacity of local governments, it is necessary for them to plan their outlays according to their estimated revenues. The first step in financial planning for a local government is, therefore, to estimate its potential revenue, after collecting and analysing a wide range of financial and socio-economic data. Next, expenditures for which commitments have already been made have to be calculated. The difference between estimated revenue and prior commitments is the amount available for servicing the additional debt for needed public investment. Thus, it appears that a local government should plan an increasing, decreasing, or stable debt according to the relationship between necessary expenditure and the amount that citizens will be willing and able to pay to the government as taxes and fees. In general, expanding communities can plan expanding debts over the long run in order to take care of their expanding needs. However, the undertaking and financing of public investment by local governments should be timed so as to conform with national employment policy. In general, self-liquidation should perhaps be limited to projects on which it is both possible and desirable to make those people who enjoy the service pay for it. There seems to be little difference at the local government level between deficit finance and the accumulation and decumulation of reserves, and there seems therefore to be little basis for choosing between them other than the taste of the community concerning them.

Technical Problems in Timing Public Investment

Financial barriers to the execution of a policy of timing public investment are much easier to overcome than technical barriers to rapid and large-scale variations in the physical volume of public investment. The failure to apply the principles of timing in the past has been partly the result of misunderstanding of the financial aspects. It is being recognised more and more widely that a nation can "afford" anything it can produce; and the major problem in

expanding public investment when unemployment threatens is not to find the money to pay for it, but to bring about the desired expansion. The chief barriers to such expansion are legal and administrative problems, problems of community planning, and to a less extent engineering problems.

Legal and Administrative Problems

Before funds can be spent on public investment, agencies must exist with authority and organisation to spend them. In most countries, agencies will be required both at the central and at the local levels of government. The development of such agencies into smooth-working machines takes considerable time, and unless they are in existence when the need for expansion arises, and have full legal authority to do their job, serious delays may result. Legal authority can be conferred as a rule only by legislation. In addition, a series of important questions have to be considered, such as the desirability of appropriating funds in advance if delays are to be avoided, and the advance letting of contracts.

The acquisition of sites might be one of the most time-consuming of the legal operations that must precede the institution of public works projects. Open-market purchase of land involves lengthy negotiations. An alternative procedure is to obtain land by condemnation procedures. Most countries have expropriation powers, but they are often limited in scope and slow in their operation. While some land may become available for public investment through tax reversion, tax delinquency is a symptom of imperfection in the tax system, and is not a suitable method of acquisition for timing purposes. While substantial areas have been obtained in the past through gifts, exchange, and foreclosures, such means of acquisition are too irregular to be relied upon for timing. The difficulties involved in acquiring land have led to such proposals as nationalisation of all land, nationalisation of development rights, ownership of land by local authorities, or possibly the pooling of large areas in private hands under Government control.

The Problem of Community Planning

Investment of any kind must be carefully planned in advance if it is to be successful. Much of the unfavourable reaction to the work relief programmes of the 'thirties could probably have been avoided by adequate planning. The volume of public investment that will be needed in the next decade for reconstruction, development, and maintenance of full employment is likely to exceed anything undertaken in the 'thirties. It is therefore more important

than ever that public investment should be based on the most efficient planning techniques.

Integration of public investment planning need not mean domination by the central Government. It is desirable to have a single central agency to integrate the planning, financing and execution of public investment, but nevertheless the planning process may consist more of "planning from below" than of "planning from above". The local planning authorities, representing citizens as well as expert opinion, can originate the bulk of the public investment plan. Community planning has four main aspects: preparation of the master plan, preparation of specifications and working drawings, financial planning, and programming. The master plan is a concrete expression of decisions made by the planning authority as to the desired physical form and public personnel of the community. Its preparation involves many steps, all of which require considerable time and expert staff. More experience has been acquired in town planning than in planning for larger units, but, ultimately, regional planning and even national planning will be necessary for truly effective public investment.

When a master plan for a town, county, region, or nation has been prepared, a programme, representing decisions by the legislature to undertake specific projects at definite times can be made out. Expenditures may be scheduled over a five to ten-year period, and a reserve of additional projects can be accumulated. Both the master plan and the programme should be subject to more or less continuous revision in terms of changing conditions and acquisition of new information.

The essential problem of programming is the assignment of priorities to various projects, in order to determine which ones shall be undertaken in a particular year. No clearly established criteria for determining priorities according to product effects are available. However, as a preliminary step, projects could be assigned priority ratings according as they are: (*a*) essential to life, health or safety; (*b*) essential to the economic activity of the community; (*c*) essential to social welfare; (*d*) essential for cultural and aesthetic development. Governments may also give weight to process effects when assigning priorities to public investment projects. In order to pursue such a policy, a Government must have reasonably satisfactory statistics of on-site, off-site, secondary, and tertiary employment provided by various types of project.

When five to ten-year programmes plus reserves have been prepared by the bulk of local governments, the central Government can make available additional funds to local governments whenever unemployment appears. The local governments can then tele-

scope enough years' work into a single year to absorb whatever volume of unemployment makes its appearance. Such telescoping presents its own problems, however, and it would add to the effectiveness of a timing programme if these problems were kept in mind when the programmes are drawn up.

In order to have effective planning, it is necessary to have competent personnel. Since there is a shortage of such personnel in many countries, it may be necessary to start the planning process with the training of additional community planners.

Information about the engineering aspects of timing public works is unfortunately somewhat limited, and it is to be hoped that in future the problems of timing public investment will receive more attention from engineers. Once a contract is let, engineering factors are the major determinant of the time pattern of a public works project, unless the acquisition of sites presents particularly severe obstacles. The engineering aspects of timing have two phases: time from contract award to beginning of construction (engineering planning phase); and time from beginning to end of construction (construction phase). The most important factor in the time lag between the award of contracts and the beginning of construction is the time of year when contracts are awarded. However, there are considerable differences in the effect of the seasons among projects of different types. Highway construction, for example, is much more affected than building construction by the season when contracts are let. The size (cost) of the project has only a limited effect on the duration of the engineering planning phase, although the time required to prepare working drawings and specifications tends to vary somewhat with the size of the project.

The duration of the construction phase depends mainly on the size of the project. There is more variation between the duration of the construction phase for projects of the same kind but of different size (cost) than there is for projects of the same size but of different type. Judging from the experience of the United States Public Work Reserve, most projects of local governments can be completed in less than eight months after contracts are let. It would seem, therefore, that the construction phase of timing presents no major obstacles. Physical timing can be obtained best by varying the size of the total programme in each period, rather than by varying the speed of execution of particular projects. Considering the short duration of the construction phase of most projects, the contraction of a public investment programme need never involve leaving some projects unfinished. All that is necessary is to abstain from replacing projects as they are completed. It would not seem to be desirable to give much weight to the engineering

aspects of timing in assigning priorities to projects. For projects of equal cost, time patterns seem to be much the same for any type of project. Flexibility in a public investment programme therefore requires merely advance preparation of a shelf of projects. Given such a reserve, the engineering aspects of timing should not be troublesome.

The Lessons of the 'Thirties

In most countries, the timing of public investment during the inter-war period ran counter to the principle laid down in the Public Works (National Planning) Recommendation, 1937. Few central Governments and hardly any local governments increased their public works expenditures or their deficits during 1921-1922, or during the downswing of 1929-1932. Where central Governments did make an effort to alleviate unemployment by public investment, their efforts were usually frustrated by contradictory policies at the local government level. The experience of the United States is particularly instructive, because that country encountered virtually all the difficulties of expanding public investment rapidly. While the public investment programme of the New Deal in the United States was very small relative to the needs or to national income, and while the fiscal policy of the Federal Government was not consistent throughout the period, Federal policy approximated to the principle of compensatory spending better than the policy of the State and local governments. The net addition to national income by those governments fell off rapidly after 1931, and in the worst years of depression was actually negative. Even in the field of construction, where public investment was most heavily concentrated, the reduction in State and local expenditures prevented Federal construction from stabilising activity for the industry as a whole.

In the United Kingdom, no sustained effort to combat unemployment by public investment was made, either by the central Government or by the local authorities. Public investment by the central Government was cyclical rather than compensatory, but the variations up to 1936 were too small to be of great significance. The investments of local authorities increased from 1928-29 to 1931-32, but fell off drastically in the next two years. Since local authority investment was more than 25 per cent. of total public and private investment in the late 'twenties, the relative stability of local authority investment, and the slightly expansionary method of financing it during the downswing, may have acted as a stabilising factor. In Canada, the gross investment of Dominion, provincial, and municipal governments combined, including maintenance and

publicly owned utilities, dropped from $313 million in 1929 to $108 million in 1933, rising again to $246 million in 1937, and dropping to $220 million in 1939. The same cyclical pattern was followed by all three levels of government individually, and by publicly owned utilities as well. The main effort to meet the unemployment situation took the form of relief, which included some work relief; but even this was on a small scale. In Australia, there was a sharp drop in loan-financed public investment between 1929 and 1932. After 1932, there was some increase in public investment, but it remained far below the level of the 'twenties.

The public investment policy of Sweden conformed much more closely to the principles laid down in the 1937 Recommendation. Both the central Government and the local authorities increased their expenditures during the downswing, made their heaviest outlays in 1933, and contracted the scale of their activities as employment and income rose. During the downswing, however, the scale of public investment was small and largely tax-financed. After 1933, the concept of annual balancing of the operating budget was replaced by a concept of cyclical balance, and a new and enlarged programme of deficit-financed emergency works was undertaken. At their height, public investment projects absorbed 55 to 90 per cent. of the registered unemployed; thus even with relatively small secondary effects, the public investment programme would have been enough in itself to eliminate unemployment. Public investment in State enterprises was responsible for a large share of the total.

The Task Ahead

The post-war planning of Governments shows enormous improvement over the principles and practices of the inter-war period. Many Governments have declared their adherence to the principle of utilising public investment to offset fluctuations in private employment in the post-war period. The Commonwealth Government of Australia has stated: "The essential condition of full employment is that public expenditure should be high enough to stimulate private spending to the point where the two together will provide a demand for the total production of which the economy is capable when fully employed", and that "public capital expenditure is the principal type of expenditure that can be readily varied to offset variation in the unstable parts of expenditure". It has also argued that deficit-financing, especially through the Central Bank, is advantageous when unemployment exists. The Dominion Government of Canada has committed itself to "the undertaking of advance planning of all necessary and desirable Dominion projects so that there may be available a shelf of soundly-planned

projects, ready for execution when prospective employment conditions make it desirable to increase public investment expenditures", and has stated frankly that "the Government will be prepared, in periods when unemployment threatens, to incur the deficits and increases in the national debt resulting from its income and employment policy". It has also stated that "it is highly desirable that other governments [provincial and local] agree to accept similar timing policies to those that the Dominion proposes for its own programme". Sweden appointed an Economic Post-War Planning Commission in February 1944, which has unanimously declared that public investment should proceed on a large scale if private investment and exports fall below the level needed for full employment, and has proposed the preparation of a public investment programme for the purpose. The Government of the United Kingdom has declared that "it is desirable that public investment should actually expand when private investment is declining and should contract in periods of boom", and has argued that "a rigid policy of balancing the budget each year regardless of the state of trade is not required by law nor is it part of our tradition". In his budget message for the fiscal year 1946, President Roosevelt made the following statement regarding public investment policy in the United States: "We must continue to stock up a shelf of meritorious construction and development projects to be undertaken as manpower and material become available.... We need a larger shelf of detailed plans in order to be prepared for the post-war period.' President Truman, in a message to Congress on 6 September 1945, stressed the housing, urban redevelopment, and resource development and conservation aspects of public investment, but also recognised the importance of timing the programme so as to alleviate unemployment. In his message transmitting the budget for 1947, he reiterated these views, urging the resumption of long-range programmes of resource development, the timing of public works so as to offset fluctuations in private construction, continued financial aid to Federal agencies and to State and local governments for public investment planning, and Federal subsidies for rural housing and for urban housing and redevelopment.

While the principles have been almost unanimously adopted, few countries have passed the legislation required at various levels of government for the application of these principles; fewer have set up the necessary administrative and financial machinery; and fewer still have fully prepared programmes of public investment large enough to meet any employment situation that may arise. While much progress has been made throughout the world in the planning of public investment, much remains to be done.

Conclusion

At its 1946 session in Montreal, the International Development Works Committee of the I.L.O. had before it a draft of the present chapter and galley proofs of most of the study.[1] After some discussion the Committee agreed that the following major points of public investment policy "should be given very careful consideration by all Governments engaged in planning public investment, especially development works, which form a very important part of such investment, in relation to full employment". These points are presented here as a final conclusion of this Report.

1. In planning for full employment, Governments should aim at ensuring the maintenance of a high level of total expenditure, both private and public, and should in this connection plan public investment and its financing in such a way as to reduce industrial fluctuations as far as possible, as recommended by the Public Works (National Planning) Recommendations, 1937 and 1944, and to utilise resources with the utmost efficiency for the satisfaction of the needs of the people.

2. (1) Government and other public authorities should time their public investment in such a way as to contribute to the maximum possible degree of stability in the major industries affected by it, such as, for example, the building and civil engineering industries and the mechanical engineering industry, in order to minimise the shifting of labour from industry to industry, and to permit continuous operation close to capacity.

(2) In selecting projects for inclusion in the public investment programme, attention should be given to the varying needs of different regions in each country concerned, and account should also be taken of the particular skills required for carrying out the programme to ensure that the jobs provided match, as far as possible, the skills of the available labour supply.

(3) As public services make a large contribution to national welfare and as it is desirable that public investment and public services be planned and budgeted on parallel lines, consideration should be given to the possibility (*a*) of regulating the timing and volume of variable public services, such as, where appropriate, research and surveys, improvement of maps and records, and handicraft projects, so as to conform to the timing of public investment; and (*b*) when unemployment threatens, of enlarging the programme of continuous public services, such as health and education, and of varying the methods of financing such services in a counter-cyclical manner.

[1] Part V was not included in the material submitted to the Committee.

3. In order to provide needed flexibility in the use of public investment as an instrument to maintain full employment, public investment programmes should include an appropriate volume of projects that can be completed within a relatively short perity as well as projects of longer duration.

4. In order to secure a clearer picture of their financial position Governments should give careful consideration to the desirability of revising their accounting systems in such a way as to separate capital outlays from the current or operating budget, and carry over to the latter budget (*a*) interest and depreciation charges on capital items and (*b*) earnings of self-liquidating projects.

5. Agencies equipped with necessary legal and financial powers should be established at all levels of government to plan, execute, and when necessary co-ordinate, public investment projects in such a way as to make a maximum contribution to economic development and to the prevention of unemployment.

6. In order that plans may be put into operation with a minimum of delay when unemployment is increasing:

(*a*) All stages of planning, including financial planning, completion of a five to ten-year normal programme, together with a reserve of additional useful projects, and preparation of working drawings and specifications, should be undertaken in advance;
(*b*) Such plans and programmes should be subject to continuous evaluation and revision in the light of changing conditions;
(*c*) Public authorities should be granted wide powers for the speedy acquisition of land at fair prices, including authority to acquire sites in advance;
(*d*) The procedure for letting contracts should be simple and speedy.

7. Wherever adequate personnel for efficient advance planning is lacking, since such advance planning is essential to the whole policy of using development works to reduce unemployment, Governments should —

(*a*) Give every feasible encouragement to the acquisition of adequate staff by the Government bodies concerned;
(*b*) Make all possible use of professional services available on a consultant basis;
(*c*) Where possible, provide a pool of skilled personnel, that can be made available to assist lower levels of government with the preparation of plans and programmes; and
(*d*) Provide assistance for the training of requisite technical staff.

8. Since a major portion of public investment is undertaken by regional and local governments, central Governments should develop systems of grants-in-aid for the purposes of —

(*a*) Assisting regional and local governments with the advance preparation of plans and programmes;
(*b*) Inducing regional and local governments to time their public investment in relation to the employment situation; and
(*c*) Providing financial aid to such of those governments as require assistance to undertake an adequate development works programme.

9. To assist in the efficient planning of public investment, Governments should collect and process all relevant statistics, such as the volume of on-site and off-site employment and, if possible, secondary employment, provided by projects of different sizes and types, the distribution of total man-hours by months, labour and materials costs, etc., and should communicate the statistics to the International Labour Office. It would also be useful if Governments would, for the purpose of evaluation, submit the sources of the data and the methods of procedure adopted in compiling the data.[1]

10. Particular importance should be attached to the co-ordination of national public investment policies.

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[1] This point was considered in May 1946 by the Governing Body of the International Labour Office, which decided to defer action during the negotiations then under way between the International Labour Organisation and the United Nations.

APPENDICES

APPENDIX I

RECOMMENDATIONS AND RESOLUTIONS ON PUBLIC INVESTMENT POLICY ADOPTED BY THE INTERNATIONAL LABOUR CONFERENCE

Extract from the Recommendation (No. 1) concerning Unemployment, 1919

PARAGRAPH IV

The General Conference recommends that each Member of the International Labour Organisation co-ordinate the execution of all work undertaken under public authority, with a view to reserving such work as far as practicable for periods of unemployment and for districts most affected by it.

Recommendation (No. 51) concerning the National Planning of Public Works, 1937

The General Conference of the International Labour Organisation,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Twenty-third Session on 3 June 1937, and

Having decided upon the adoption of certain proposals with regard to the national planning of public works, which is included in the third item on the agenda of the Session, and

Having determined that these proposals shall take the form of a Recommendation,

adopts, this twenty-second day of June of the year one thousand nine hundred and thirty-seven, the following Recommendation which may be cited as the Public Works (National Planning) Recommendation, 1937:

Whereas in the absence of advance planning expenditure on public works tends to increase in years of prosperity and to diminish in years of depression;

Whereas fluctuations in the volume of employment of workers engaged on public works are thereby superimposed on the fluctuations in the volume of employment arising out of commercial demand, thus aggravating successively the shortage of certain classes of workers in periods of prosperity and the extent of unemployment in periods of depression;

Whereas it is desirable to time public works in such a way as to reduce industrial fluctuations as far as possible;

Whereas the uniform application of such a policy of timing to all public works involves the co-ordination of the administrative and financial methods applied by the various authorities; and

Whereas it is also desirable, if public works are to be fully effective as a remedy for unemployment, that measures should be adopted relating to the conditions of recruitment and employment of the workers engaged on the works;

The Conference recommends that each Member should apply the following principles:

PART I. — TIMING OF PUBLIC WORKS

1. (1) Appropriate measures should be adopted for the purpose of achieving a suitable timing of all works undertaken or financed by public authorities.

(2) This timing should involve an increase in the volume of such works in periods of depression and for this purpose it is desirable to provide for the preparation in advance, during periods of prosperity, of works capable of being held in reserve or exceeding ordinary requirements and which should be ready for execution as soon as the need is felt.

(3) Special attention should be paid to public works which stimulate heavy industries or public works which create a more direct demand for consumers' goods, as changing economic conditions may require.

2. The policy of timing public works should apply to all such works (including works in colonies) undertaken by central authorities, regional or local authorities, public utility undertakings, or any body or individual in receipt of subsidies or loans from a public authority.

3. There should be established a national co-ordinating body the duties of which should be, more particularly —

(*a*) to centralise information relating to the various kinds of public works;

(*b*) to ensure or encourage the preparation of works in advance; and

(*c*) to give instructions or advice as to when works should be held in reserve and when works held in reserve should be undertaken, account being taken of fluctuations in the volume of unemployment, changes in the index of wholesale prices, changes in the rate of interest and any changes in other indices which indicate an alteration in the economic situation.

PART II. — FINANCING OF PUBLIC WORKS

4. Among the financial measures necessitated by the policy embodied in the present Recommendation the following should receive special consideration:

(*a*) the placing to reserve in periods of prosperity of the resources necessary for carrying out works prepared for periods of depression;
(*b*) the carrying forward of unexpended balances from one year to another;
(*c*) restricted borrowing by public authorities in periods of prosperity and accelerated repayment of loans previously contracted;
(*d*) the financing by loan in periods of depression of public works likely to stimulate economic recovery, and, generally speaking, the application of a monetary policy which will make possible the expansion of credit required at such a time for the speeding up of the public works and which will ensure the lowest possible rate of interest on the loans.

5. The co-ordinating body provided for in Paragraph 3 or a special body acting in co-operation with it should be entrusted with all or some of the following duties in connection with the financing of public works:

(*a*) to advise the central authority on financial policy and, if necessary, taxation policy relating to public works;
(*b*) to assist in achieving proper co-ordination between the credit policy and market operations of the central bank, or corresponding institution, and the public works policy of the Government;
(*c*) to co-ordinate the borrowing policy of the different public bodies referred to in Paragraph 2; and
(*d*) to take such measures as may be necessary to ensure that the policy of the central authority in respect of loans and subsidies is made effective.

PART III. — EMPLOYMENT OF CERTAIN CLASSES OF WORKERS

6. In applying the policy of timing provided for in this Recommendation, consideration should be given to the possibility of including works which will give employment to special classes of workers such as young workers, women and non-manual workers.

PART IV. — CONDITIONS OF RECRUITMENT AND EMPLOYMENT

7. The recruitment of workers for employment on public works should be effected for preference through the public employment exchanges.

8. Foreign workers authorised to reside in the country concerned should be accepted for employment on public works in the same conditions as nationals, subject to reciprocal treatment.

9. The rates of wages of workers on public works should be not less favourable than those commonly recognised by workers' organisations and employers for work of the same character in the district where the work is carried out; where there are no such rates recognised or prevailing in the district, those recognised or prevailing in the nearest district in which the general industrial circumstances are similar should be adopted, subject to the con-

dition that the rates should in any case be such as to ensure to the workers a reasonable standard of life as this is understood in their time and country.

Recommendation (No. 73) concerning the National Planning of Public Works, 1944

The General Conference of the International Labour Organisation,

Having been convened at Philadelphia by the Governing Body of the International Labour Office, and having met in its Twenty-sixth Session on 20 April 1944, and

Having decided upon the adoption of certain proposals with regard to the national planning of public works, which is included in the third item on the agenda of the Session, and

Having determined that these proposals shall take the form of a Recommendation,

adopts, this twelfth day of May of the year one thousand nine hundred and forty-four, the following Recommendation which may be cited as the Public Works (National Planning) Recommendation, 1944:

Whereas the Public Works (National Planning) Recommendation, 1937, recommends that all works undertaken or financed by public authorities should be timed in such a way as to reduce industrial fluctuations as far as possible, and that special consideration should be given to the financing by loan in periods of depression of works likely to stimulate economic recovery and to the application of a monetary policy which will make possible the expansion of credit required for the speeding up of such works and ensure the lowest possible rate of interest on the loans; and

Whereas at the end of the war public authorities will be faced with the great need to repair the damage caused by the war, to restore and replace existing public works, and to provide new public works and services; and

Whereas public works constitute a large element in the economic life of all nations, and public works programmes are an important method by which levels of productivity can be increased, and by which levels of living of all peoples can be raised; and

Whereas it is important in the transition from war to peace that public and private enterprise should be co-ordinated to assure the prompt and orderly use of human and material resources, avoiding on the one hand rush demands for materials which would leave contractors temporarily in short supply and on the other hand inadequate development of demand;

The Conference recommends the Members of the Organisation to apply the following general principles, and to communicate information to the International Labour Office, as requested by the Governing Body, concerning the measures taken to give effect to these principles:

1. Each Member should prepare a long-term development programme which can be accelerated or slowed down in accordance with the employment situation in different parts of the country.

2. Special attention should be paid to the importance of timing the execution of the works and the ordering of supplies, so as to limit the demand for labour at a time when there is already full employment and to increase it at a time when there is unemployment.

3. In applying this policy, consideration should be given not only to the employment situation in the country as a whole but also to the situation in each area and to the particular types of skill available in the area concerned.

4. Local authorities and others responsible for framing schemes for employment should be informed by their central authorities at the earliest possible moment what financial support will be forthcoming, so that the local authorities and technical services may proceed without further delay to prepare plans and to make such practical preparation as would enable large numbers of demobilised soldiers to be absorbed as soon as they are available.

Recommendation (No. 50) concerning International Co-operation in respect of Public Works, 1937

The General Conference of the International Labour Organisation,

Having been convened at Geneva by the Governing Body of the International Labour Office, and having met in its Twenty-third Session on 3 June 1937, and

Having decided upon the adoption of certain proposals with regard to international co-operation in respect of public works, which is included in the third item on the Agenda of the Session, and

Having determined that these proposals shall take the form of a Recommendation,

adopts, this twenty-second day of June of the year one thousand nine hundred and thirty-seven, the following Recommendation which may be cited as the Public Works (International Co-operation) Recommendation, 1937:

Whereas the advance planning of public works is a useful method of preventing unemployment and counteracting economic fluctuations; and

Whereas action for this purpose can be effective only if it is based on adequate information and international co-operation;

The Conference recommends that:

1. Each Member of the International Labour Organisation should communicate annually to the International Labour Office, on the most suitable date, statistical and other information concerning public works undertaken or planned on its territory, including orders for plant, equipment and supplies.

2. The information communicated by Members in accordance with Paragraph 1 should be supplied as far as possible in accordance with a uniform plan relating more particularly to the expenditure involved, the method of financing the works and the number of workers engaged.

3. Each Member should co-operate in the work of any international committee which may be set up by the Governing Body of the International Labour Office for the purpose, more particularly, of studying the information communicated in accordance with Paragraph 1 and preparing the uniform plan referred to in Paragraph 2.[1]

4. Each Member should carefully consider what action to take on the basis of any reports which the Governing Body of the International Labour Office may send it as a result of the discussions of the committee contemplated by Paragraph 3.

Extracts from the Resolution concerning the Maintenance of Full Employment during the Period of Industrial Rehabilitation and Reconversion (adopted on 3 November 1945)

Paragraph 3

In view of the importance of a high level of investment from the point of view of employment policy, and in order to eliminate as rapidly as possible the shortages of capital goods which create bottlenecks and thereby hinder both an increase in employment and the production of consumers' goods, provision should be made for —

(*a*) measures to facilitate the flow of credit and of capital to new, efficient enterprises; and

(*b*) appropriate methods by which public authorities may support and supplement investment in types of development (such as housing) which are of special importance from the social point of view; and

(*c*) consultations between Government and industry for the purpose of adapting the volume of private investment with a view to minimising trade fluctuations; and

(*d*) a policy of public investment and related financial measures on the lines recommended in the Public Works (National Planning) Recommendation, 1944.

. . . . . .

Paragraph 6

(1) When the inflationary danger has passed the problem will be to maintain an adequate level of aggregate demand for goods and services.

[1] The International Public Works Committee (subsequently renamed the International Development Works Committee) was constituted by a Statute approved by the Governing Body of the International Labour Office on 4 Feb. 1938 (see Preface to the present Report).

(2) In order that the scale of employment offered by private and public employers may be adequate, Governments should take positive steps to ensure that any deficiency in the total demand for goods and services, in relation to that required to achieve full employment in the circumstances ruling at the time, will be offset by an expansion of private and/or public expenditure in accordance with the principles set out in Chapter II of the Report on "The Maintenance of High Levels of Employment during the Period of Industrial Rehabilitation and Reconversion" (Report II) submitted to the Twenty-seventh Session of the Conference.

(3) One of the principal instruments for achieving this object would be the adoption of a suitable budgetary policy, and in determining such a policy special regard should be had to its effect on the magnitude and composition of aggregate demand and thus on the volume and structure of employment and output.

(4) In applying the above principles consideration should be given, whenever aggregate demand threatens to become deficient, to —

(*a*) the stimulation of consumption by subsidies;
(*b*) the reduction of taxes on lower incomes;
(*c*) the expansion of public investment.

APPENDIX II

PROBLEMS OF ESTIMATING PROCESS EFFECTS

As pointed out in Chapter II, the volume of statistics on process effects that is available is very limited. For the United States, a fairly wide range of statistics on primary employment has been prepared by the Bureau of Labor Statistics for projects carried out under the Public Works Administration, and for a few Works Projects Administration undertakings. For the United Kingdom, the range is much narrower, and for Canada, such statistics are available only for housing and for a very small number of public buildings. At the time of writing, no labour patterns had been obtained for Sweden and Australia or for other countries. Even the figures that do exist are not clearly comparable, because of differences in classification by size and by type of project, and differences in methods of computation. No figures whatsoever are available on the secondary and tertiary effects of particular projects, and these may well outweigh the primary effects in importance. Such data as are available[1] are presented in tables 5 and 6 in Chapter VII (pp. 128 and 129) and in tables 51-55 below.

Problems of International Comparison

If labour patterns developed in one country could be used in other countries, this deficiency of statistics would be of less serious import. In order to evaluate the extent to which this is possible, some comparisons have been made for those countries for which data are available. The comparisons relate to the following data:

(1) The number of man-hours of employment created on the site by $1 million worth of expenditure;

(2) The total number of man-hours of employment created by various types of project;

(3) The ratio of off-site to on-site employment (labour patterns) for various types of project;

(4) The proportion of total cost consisting of on-site wages;

(5) The rank-order of various types of project in terms of the above criteria.

In comparing the volume of employment created by a given type of public investment project in two different countries, the

[1] The article by E. Jay Howenstine, Jr., on "Dovetailing Public Works into Employment Policy", in *Review of Economic Statistics* (Aug. 1946), which contains some interesting labour patterns and time patterns for agricultural projects in the United States, was not available at the time of writing of this Report.

question arises as to the proper exchange rate to be used in converting one currency into another. Particularly at the present time, when foreign exchange rates are subject to controls, the current rates of exchange are not an accurate measure of the relative labour cost of particular types of project in the different countries. Ideally, one should have a different exchange rate for every type of project, expressing the relative amounts of labour, of appropriate skills, that could be bought with one unit of currency in each country. Obviously, such conversion rates are not available. Since the available data refer to the pre-war period, a conversion rate of five dollars to the pound is used in comparing labour patterns of the United States and the United Kingdom in tables 51-54.

TABLE 51. UNITED STATES, UNITED KINGDOM AND CANADA: VOLUME OF ON-SITE AND TOTAL EMPLOYMENT CREATED BY $1 MILLION EXPENDITURE ON VARIOUS TYPES OF PROJECT

(*Thousand man-hours*)

Type of project	On-site employment				Total employment			
	United States		United Kingdom 1930	Canada 1935-1943	United States		United Kingdom 1930	Canada 1935-1943
	1933-1938	1940			1933-1938	1940		
Housing	410	388	705	583	1,025	779	1,197	1,361
Schools	—	347	639	—	—	830	1,074	—
Sewers	358	314	865[3]	—	1,025	759	1,095[3]	—
Roads	475	441[1]	372	—	1,144	877[1]	933	—
Streets		356[2]	549	—		804[2]	1,083	—

TABLE 52. RATIOS OF OFF-SITE TO ON-SITE EMPLOYMENT

Type of project	United States		United Kingdom 1930	Canada 1935-1943
	1933-1938	1940		
Housing	1.9	1.3	0.7	1.3
Schools	—	1.4	0 7	—
Sewers	1.9	1.4	0.2	—
Roads	1.4	1.1	1.5	—
Streets		1.3	1.0	—

Sources: United States: BUREAU OF LABOR STATISTICS (communication to the I.L.O.); United Kingdom: BRETHERTON *et al., op. cit.* (based on Census of Production, 1930); Canada: O. J. FIRESTONE: *The Labour Value of the Building Dollar* (Ottawa, National Housing Administration, 1943).

Assumptions: £1 = $5; 1 man-year = 1,500 man-hours.

[1] Average of "bituminous paving" and "grading and drainage". [2] Concrete paving. [3] Average of sewers with "foul-water drainage" and sewers with "surface-water drainage".

A further problem arises from the fact that British labour patterns are in terms of man-years, and the American patterns in terms of man-hours. A rate of 1,500 hours to the year is used here for comparative purposes. If anything, these conversion rates would presumably result in a downward bias for the number of man-hours

created by $1 million worth of work in the United Kingdom. Even with these conversion factors, however, the number of man-hours created by $1 million worth of work in the United Kingdom, whether on the site or in total, is considerably higher than in the United States (see table 51). This relationship holds for all five categories of project for which comparisons can be made from the available data, and reflects in part the lower wage scale in the United Kingdom. However, with the exception of roads and streets, the difference between the American and the British figures is considerably greater for on-site employment than for off-site employment. This fact is reflected by the lower ratio of off-site to on-site labour in the United Kingdom for all categories of work other than streets and roads (see table 52).

Four possible explanations for this difference in ratios suggest themselves. First, it is likely that British techniques involve relatively less use of labour-saving devices on the site; prefabrication of doors, sashes, and plumbing and heating equipment is of greater importance in the United States than in the United Kingdom. Second, in British construction a larger share of the materials used is imported, so that the purchase of materials creates less off-site employment within the country itself than it does in the United States. Third, it may be that the types of materials both used and produced in the United Kingdom involve less off-site labour than those used and produced in the United States. One obvious difference in construction methods is the greater proportion of wooden structures in the United States, and it is probable that lumber involves more off-site man-hours per dollar than bricks. Fourth, average internal transportation hauls would be much shorter in the United Kingdom, so that the man-hours utilised in transporting materials would be less.[1]

A comparison of labour patterns for housing in Canada and in the other two countries, shows a ratio of off-site to on-site employment that is identical for the United States and Canada (see table 52), but a larger volume of employment per $1 million worth of expenditure in Canada (see table 51). This difference no doubt reflects the lower wage rates in the construction industry in Canada. Estimates of employment provided by public building projects show a ratio of off-site to on-site labour slightly lower in Canada than in the United States, and again a higher volume of employment both on and off the site.

The rank-order of employment created on the site varies widely between the United Kingdom and the United States. In the case of housing, since central hot water or steam heat is more common in the United States, the more accurate comparison would probably be between British housing and American housing with "forced air heat", rather than with "circulating heat". Housing with forced air heating falls far down the list of projects in the United States so far as total employment creation is concerned (see table 53); yet

[1] A final, theoretically tenable explanation would be that profits in materials industries are higher in the United Kingdom, so that a smaller share of outlays for materials goes to employment creation; however, no data are available to suggest that such is the case.

TABLE 53. UNITED STATES AND UNITED KINGDOM: RANK-ORDER OF VOLUME OF ON-SITE AND TOTAL EMPLOYMENT CREATED BY $1 MILLION EXPENDITURE ON VARIOUS TYPES OF PROJECT

Type of project	On-site employment					Total employment				
	United States			United Kingdom 1930		United States			United Kingdom 1930	
	1933-1938	1940				1933-1938	1940			
		(a)	(b)	(c)	(d)		(a)	(b)	(c)	(d)
Streets and roads	2	1	1	5	5	1	2	2	3	2
Reclamation	4	4	3	—	—	4	1	1	—	—
Schools	—[4]	3	2	3	3	—[7]	3	3	5	5
Public buildings	6[5]	5	5	—	—	7	4	4	—	—
Housing[1]	3	2	4	2	1	5	5	7	1	1
Water supply[2]	7	6	6	4[6]	4[6]	2	6	5	4	3
Sewers[3]	5	7	7	1	2	6	7	6	2	4

[1] United States, 1933-1938: "total housing"; 1940, col. (a): "housing with circulating heat"; col. (b): "housing with forced air heat". [2] United Kingdom: "public health" other than "sewers". [3] United Kingdom, col. (c): sewers with "foul-water drainage"; col. (d): sewers with "surface drainage". [4] Naval vessels rank first; no figures for schools. [5] Post offices rank somewhat lower, if separated out. [6] Same as "schools". [7] Naval vessels rank third, no figures for schools.

housing heads the list of British projects. Sewers stand high in the British list and low in the American list. Schools are at the bottom of the former list but rank fairly high in the latter. Even with regard to on-site employment there are marked differences in rank-order between the two countries, as table 53 indicates. The difference in rank-order is somewhat less marked than in the case of total employment, as would be expected from the sharp difference between the ratios of off-site and on-site employment.

TABLE 54. RANK-ORDER OF SHARE OF COSTS GOING TO ON-SITE WAGES

Type of project	United States		United Kingdom 1930
	1933-1938	1940	
Streets and roads	4	7	5
Reclamation	1	3	—
Schools	—	2	3
Public buildings	5	4	—
Housing	2	1	2
Water supply	7	6	4
Sewers	6	5	1

Finally, even the rank-order of the proportion of cost going to on-site wages shows considerable difference as between the two countries, as shown in table 54.[1] Sewers, for example, stand at the

[1] These figures must be used with caution, since the American data are for construction cost only, while the British are for total development costs.

top of the British list in this regard, but are near the bottom in the United States. Streets and roads are at the bottom of the British list, but are relatively high on the American list for the period 1933-1938. Housing, however, stands relatively high on both lists.

It is interesting to note (table 51) that the differences between the figures for American experience in the years 1933-1938 and in 1940 are almost as great as the differences between British and American pre-war experience. This fact suggests that relative prices of various building materials and relative wage rates for various types of construction workers (see table 55) are important factors in determining labour patterns. The differences in the number of man-hours of labour per million dollars' worth of expenditures are, of course, due to increasing construction wage rates and rising prices of building materials. The difference in ratio of off-site to on-site employment is due to the relative movements of these wage rates and prices. In the case of water supply projects where the ratio of off-site to on-site employment shows the greatest change, the difference is partly explained by a change in sample. The figures for 1933-1938 were heavily weighted by highly mechanised water projects and by large filtration plants, which required relatively lower site-labour than the average.

TABLE 55. UNITED STATES: PERCENTAGE DISTRIBUTION OF CONSTRUCTION COSTS, 1940

Type of project	On-site labour	Materials	Other	Total
Concrete paving	25.1	41.5	33.4	100
Bituminous paving	19.9	48.8	31.3	100
Grading and drainage	27.9	38.6	33.5	100
Highway bridges	25.8	47.4	26.8	100
Reclamation	30.0	45.0	25.0	100
Water supply	28.0	54.0	18.0	100
Sewers	29.5	50.2	20.3	100
Housing:				
Circulating heat	31.9	48.1	20.0	100
Forced air heat	32.6	47.3	20.1	100
Schools	31.1	52.1	16.8	100
Post offices	26.7	47.6	25.7	100
Factories	30.0	53.5	16.5	100
Miscellaneous buildings	29.9	53.5	16.6	100

Source: U.S. DEPARTMENT OF LABOR, BUREAU OF LABOR STATISTICS, communication to the I.L.O.

In view of the great discrepancies between the labour patterns of different countries and even between the labour patterns of the same country at different times, it is to be doubted whether the composition of the public investment programmes of any country should be based on the labour patterns of another country. Considering the complications involved in translating one currency into another, in converting man-hours into some working month or week that constitutes full employment, and in estimating the various process effects upon employment, it would seldom be advisable to use the figures of another country even if the other difficulties were

not present. Any Government wanting to take the volume of employment created by various projects into account when assigning projects should ultimately develop its own labour patterns. Moreover, in view of the tendency for these patterns to change rapidly in a single country, it is important to keep them up to date if they are to be used in assigning priorities.

On the other hand, there may be countries that have no experience from which to estimate the effects of public investment upon employment, or that have kept no records. For them, data from other countries might be useful if all countries had comparable categories, years, and techniques. The Government of any one country could decide, for example, that with regard to engineering and construction techniques, etc., that country stood between countries A and B, so that results somewhere between those of A and B could be expected. Indeed, this may be an area where an international exchange of information might prove particularly useful. If so, every effort should be made to have uniform categories and techniques adopted.

Problems of Measuring Off-Site Employment

Even within a single country, relatively well provided with basic data, statistical problems arise in determining the volume of off-site employment for different types of project. To illustrate the difficulties that arise, the measurements made by the United States Bureau of Labor Statistics (B.L.S.), which are the only figures sufficiently complete to serve for illustrative purposes, are analysed in this section.

The Definition of Off-Site Employment

The first difficulty arises in defining off-site employment for statistical purposes. In general, off-site employment is defined by the B.L.S. as the number of man-hours required to produce the materials used in a public investment project and bring them to the site. However, because of difficulties in obtaining necessary data, none of the B.L.S. estimates of off-site employment is complete. For example, the man-hours involved in producing and transporting the power and fuel consumed in producing equipment for manufacturing the materials are not included. Similarly, the man-hours utilised in transporting the equipment worn out in the manufacture of materials, or in producing and transporting materials used in replacing worn-out equipment, are not included.

The decision as to how many stages and branches of the various processes of manufacturing materials should be included seems to have been based on the availability of data rather than on any predetermined concept of off-site employment. Consequently, the factors included vary from case to case. The man-hours involved in the manufacturing process itself are included for every material. An estimate is also made of the man-hours involved in transportation, but in some cases only inter-regional transportation is considered, while in others local transportation is also included. In some cases the man-hours utilised in producing the power and fuel consumed in manufacture are included (cement), while in others no

such allowance for power is made (steel). Similarly, the man-hours involved in replacing equipment worn out in the manufacturing process are included in some cases (cement, rail transport), while in others no allowance is made for depreciation (steel, lumber). The same is true of the man-hours required for selling and administration, which are included in the estimates for lumber, plumbing and heating supplies, electrical products, and sand and gravel, but not for steel or for cement.

While it is difficult to decide just how to limit the concept of off-site employment, it seems clear that the definition should be consistent for all materials. If it is statistically impossible to follow a material through all stages of production, it may be better to limit the concept to the man-hours used in the plant in manufacturing the material, and in transporting it from the plant to the site. Since secondary effects on spending and private investment, which are presumably excluded from any concept of off-site employment, may far exceed in importance the off-site employment created, it may be questioned whether it would be worth while trying to estimate off-site employment at all stages of the process of producing and transporting materials.

Instability of Labour Patterns

The second difficulty common to labour patterns for all materials is their extreme instability through time. Changes in wage rates either on or off the site and changes in prices of materials will obviously alter the number of man-hours of employment created by a million dollars of expenditure on particular types of project. The same is true of improvements in technique either on the site or at any stage of the production of materials. Less obvious, but none the less effective, are changes in the ratio of imported to home-produced materials. Since productivity varies with the extent of excess capacity, that too will alter the labour patterns. Similarly, since some plants are more efficient than others, and some kinds of technique are more productive than others, changes in the composition and organisation of the materials-producing industries will also affect the labour patterns. Finally, the number of man-hours involved in transporting materials will vary according to the location of the projects. In view of all these factors, it seems unlikely that labour patterns derived from conditions in a particular year will be applicable for many years following. To keep these patterns continuously up to date would be a statistical task of considerable magnitude.

Problems of Sampling

The composition of the samples for each material is limited by the records available, and accordingly is not always representative. Because of the factors mentioned in the previous section, the failure of the sample chosen to represent the composition of the industry at the time when labour patterns are being applied could make them grossly inaccurate. Thus the choice of firms to be included in the sample involves not only including firms representative of the size, type, techniques, and location of the firms in operation at the

time the sample is made up, but also estimating the changes in these factors that may take place before the labour patterns will be applied. One question that arises is whether the firms chosen should be representative of the type of firms in operation or representative of current production. Most of the samples used by the B.L.S. represent a larger share of total production than of total firms. The sample is therefore biased in favour of the larger plants, and this fact may introduce a bias in the results.

The Concept of Costs and Productivity

The B.L.S. labour pattern studies assume implicitly that costs and productivity are independent of the scale of operations, and that accordingly marginal productivity is equal to average productivity and marginal cost equal to average cost. That is, it is assumed that the productivity per man-hour in producing the additional materials required for public investment projects will be the same as the average productivity per man-hour for the materials produced in the base year. During depression periods, when excess capacity exists in most plants, this assumption may not be seriously wrong in all materials industries; cost studies indicate that costs are constant over a considerable range of output in many industries. However, studies of the cement industry show a marked variation in productivity with the percentage of capacity utilised. In such cases, the assumption that average cost equals marginal cost is quite unwarranted and introduces an error into the labour patterns.

Allocation of Cost among Joint Products

Finally, many of the materials utilised in construction are jointly produced, and present a problem of allocating costs among the various products themselves. In most cases the B.L.S. has accepted the method of allocation utilised by the industry itself. However, the accounting concepts developed by the industries are designed for purposes other than estimating labour requirements and may not accurately measure the relative numbers of man-hours utilised in the production of different materials. In the case of steel products, for example, labour patterns are given for nineteen types of material (slabs, structural shapes, rods, plates, bars, rails, wire, etc.), many of which are produced in the same plant and are indistinguishable in the early stages. The method of allocating cost among products by the steel industry is not set forth in the B.L.S. study; but a study of the maritime steel industry in Canada revealed that the sum of costs attributed to individual products far exceeded the total value of steel production. It is questionable, therefore, whether the allocation used in the American case provides an accurate measure of man-hours.

Inadequacies in Studies of Particular Materials

In addition to these common difficulties, special problems arise in the case of particular materials.

Steel

The steel study of the B.L.S. is based on a sample of 15 representative mills operating at 55 to 60 per cent. of capacity in the base year (1933). Since this was a year of deep depression, the results could hardly be representative of full employment conditions. The study points out that the man-hours required in mining the products utilised in steel vary with the physical conditions of mining, the richness of the ore, the extent to which the ore is treated, and "many other factors". The study utilises the average man-hours for the decade preceding 1933 in determining employment at the mining stage. It is clear that these figures could vary considerably from time to time. The estimate of the number of man-hours utilised in transporting materials assumes that the average wage paid per ton-mile of minerals is equal to the average wage per ton-mile for all freight carried. The study does not include all steel products and the special products of electric furnaces have been excluded; accordingly the analysis is incomplete. No allowance is made for depreciation of equipment, or consumption of power in the mining stage.

Cement

The cement study is based on figures for 102 plants, covering 62 per cent. of the number of mills and 75 per cent. of total production. The base year was 1934, when the plants were operating at only 37 per cent. of capacity. As already mentioned, this fact introduces a particularly heavy bias in the case of cement. For example, a five-kiln plant requires 140 per cent. more labour per 100 barrels of cement if only one kiln is working than if all five are in operation. The cement case is one of those in which the sample is weighted more heavily for the larger mills. The study points out that "methods of extraction, manufacture, and transportation differ among individual producers". Accordingly, a change in the distribution of orders among the various producers would upset the labour patterns. Similarly, the power requirements vary with the age of the plant, and processing takes 20 man-hours per 100 barrels in the "dry" process and only 15.8 in the "wet" process. Thus changes in the sample would have a considerable influence on the results obtained. It is interesting to note, too, that productivity in the cement industry rose 48 per cent. between 1925 and 1934. This fact has two implications. One is that the number of man-hours required per ton of cement will be considerably less than in 1934 if this increase continues. The other is that since this increase in productivity is considerably more than the average for American industry in general, a continuation of such productivity trends would mean continuous expansion of the public investment programme in terms of the physical volume of construction undertaken, unless the faster increase in productivity in the cement industry is offset by a slower increase in other materials industries. However, since the cement industry is in any case one with a low labour-capital ratio, such changes in labour productivity would be of limited practical significance.

Finally, man-hours per 100 barrels range from 37.4 on the Pacific coast to 55.7 on the north-east. This variation can be taken into account if the location of the product is known and the mills are still operating in the same places; otherwise changes in the geographical distribution of the total cement production would upset the total man-hours pattern.

Lumber

The lumber sample consists of 83 mills in three different areas, producing 12 per cent. of the total output in 1935. The lumber industry is particularly complicated because of the large number of types of lumber, and of mill products, that are jointly produced. Moreover, the man-hours vary with the size and location of trees cut, the volume of waste in the lumber, and other factors subject to considerable variation from time to time.

Rail Transport

The estimates for the man-hours absorbed by transportation per mile by rail is based on 1935 figures, although this was admittedly a year of abnormally low activity for the railways. The study involves four basic assumptions:

(1) That the ratio of man-hours used in hauling freight to total man-hours for the year is equal to the ratio of operating expenses in hauling freight to total operating expenses for the year, as determined by the Inter-State Commerce Commission.

(2) That the ratio of man-hours used in hauling a ton of a particular material in 1935 to the total man-hours in hauling freight in that year is equal to the ratio of total ton-miles of that material in 1935 to the total ton-miles of all freight in that year.

(3) That the ratio of total man-hours used in hauling any particular material for public work projects to the total man-hours used in hauling that material equals the ratio of the number of tons hauled for public work projects to the total number of tons hauled.

(4) That the tare weight (weight of empty cars) of empty hauls of any material is equal to the ratio of empty car-miles per car of the type ordinarily used in hauling that material, multiplied by the total ton-miles of that material, multiplied in turn by the tare weight of that type of car.

Any one of these assumptions could introduce an error into the figures for any particular material.

The figures include an estimate of the man-hours absorbed in producing and hauling the coal used as fuel for the locomotives. An estimate is made of the man-hours required to replace worn-out freight cars but not for any replacement of rails, ties, or other materials. The estimate of man-hours in replacing freight-cars is made by calculating the average life of a car from the depreciation rate in 1935 with an adjustment for salvage value. The total freight car capacity existing in 1935 is divided by 50 to obtain the number of 50-ton cars equivalent to that capacity. This figure is then divided by the average life of the car, to obtain an estimate of the number

of cars worn out in that year. This replacement is then allocated among various uses, including the hauling for public works projects.

These examples should suffice to show the kind of difficulties faced in estimating off-site labour in the production and transportation of various types of materials. They also suggest the kind of inadequacies that labour patterns now available contain. The inescapable conclusion would seem to be that unless these figures can be extended and improved, they cannot be used as a basis for establishing priority ratings for the different kinds of public investment projects.

Principles and Problems of Measuring Secondary and Tertiary Effects

As far as the Office is aware there are no published estimates of the secondary and tertiary effects of particular types of public investment projects that could be used to help to establish priorities. Such statistical measurements of secondary and tertiary effects as have been forthcoming to date usually consist of multiplier coefficients for investment as a whole. The closest approximation to measurements of the total process effects of public investment projects is the estimate of Bretherton, Burchardt, and Rutherford of the multiplier coefficient for British public works as a whole.[1] However, the techniques employed by these writers for all public works could be applied to individual types of project wherever data exist. Indeed, the over-all figure is built up largely from data for individual projects. Moreover, it is not necessary for the purpose of establishing priorities to have precise cardinal measurements; it is only necessary to have ordinal measurements so that projects can be ranked in terms of their secondary or tertiary effects on employment. In this section, the principles and problems of making such estimates are set forth, with the efforts of Bretherton *et al* used for illustration.

Steps in Measuring Multiplier Effects

The first step in measuring the multiplier effects of particular types of project is to calculate the "leakages" in initial outlays; that is, the share of total costs that will not be respent for home consumption. Bretherton *et al* make these calculations by first eliminating the costs of land acquisition. Purchases of land, representing mere transfer payments, are not part of national income. In the purely formal sense, therefore, Bretherton *et al.* are quite right in excluding them from their consideration of process effects. The possibility that sale of land to the Government on favourable terms might lead to increased consumption outlays by the sellers cannot be excluded; however, such increases are not multiplier effects in the strict sense, since they do not represent spending out of income created by the Government expenditures. They fall more

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[1] *Op. cit.*, Ch. VI and VII.

properly into the category of induced private consumption, and are therefore an addition to the "multiplicand" rather than a part of the multiplier. Legal costs and architects' fees are treated as negligible, and are excluded from condiseration.

Bretherton *et al.* next divide remaining outlays into costs of materials, wages, and profits. Profits are treated as a leakage in the first stage, since they do not represent "primary employment in any statistical sense".[1]

Expenditures on materials must be redivided into wages, profits, and imports, the latter two categories being treated as leakages. On the whole it is probably legitimate to treat imports as a dead loss so far as multiplier effects are concerned; but a truly complete analysis of multiplier effects would take into account the effects of increased imports on exports, and add any resultant rise in exports to the final multiplicand.

Bretherton *et al.* encountered statistical difficulties with regard to materials expenditures. Beyond the first, or at best the second, stage, they point out, it is virtually impossible to determine the allocation of outlays on materials, since beyond the first or second stage materials are drawn from the entire capital goods industries. It is their opinion that "little inaccuracy is likely to be introduced if we use, for the third and all subsequent stages, proportions determined from an average of all the capital goods industries, weighted according to their gross output figures".[2] This optimism might seem unwarranted in many cases; and in fact, they apply this averaging technique to all stages, including the first, so far as the leakage into imports is concerned. It should be possible in most countries, however, to determine materials patterns for individual types of project, and to estimate the proportion of materials that will be imported, for at least one or two stages of the expansion process.

Another possible error is introduced into the Bretherton *et al.* calculations by the lack of figures on available stocks of materials. The authors had no choice but to assume that all materials used would be replaced from current production. Here again, a well-equipped Government agency should be able to obtain the needed data on stocks. The authors are right, in any case, in arguing that replacement of stocks belongs to relation rather than to multiplier effects.

The results of the Bretherton *et al.* calculations of primary effects are shown in table 5 above.[3] Even such figures are useful; in the absence of evidence to the contrary, it is reasonably safe to assume that the order of total employment provided by various types of project will be the same as the order of primary employment.

The authors make no attempt to measure the multiplier effects of individual types of project, but do estimate an "expenditure multiplier" for all public works, defined as the ratio of the total addition to national income to the initial expenditure on public works,

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[1] *Ibid.*, p. 294.
[2] *Ibid.*, p.295
[3] See above, p. 128.

or as $(W' + P') + (W + P)\frac{K'}{1-K'}$, where

W' = share of initial expenditure going to wages
P' = share of initial expenditure going to profits
W = share of subsequent consumer expenditures going to wages
P = share of subsequent consumer expenditures going to profits
K' = marginal propensity to consume domestic goods multiplied by (W' + P')
K = marginal propensity to consume domestic goods multiplied by (W + P)

In calculating the terms of this equation, several other concessions to lack of data have had to be made. First W' and P' are calculated from *average*, not *marginal*, figures; that is, the implicit assumption is made that these ratios are independent of the level of national income, except as influenced by changes in the ratio of imports to income.

The value of R, the share of outlays spent on imports (W + P + R = 1), is estimated from over-all figures relating imports to income for the years 1929-1936 inclusive. The resulting scatter diagram suggested two separate straight-line functions, one for the downswing in 1929-1931, and one for the upswing in 1932-1936. These two functions provided very high coefficients of correlation (0.98 to 0.99) and are presumably reasonably good measures of the relation between income and imports for the period covered. Projection of these figures to later years would, however, be subject to grave limitations, in view of changing economic conditions in general and changing terms of trade in particular.

The authors do not calculate W or P separately. Relying on the accuracy of their figure for R and the fact that W + P + R = 1, they content themselves with measuring the ratio of W to P. A scatter diagram of quarterly data of labour income and non-labour income for the years 1929-1937 suggests one straight-line function for the period, first quarter of 1929 to second quarter of 1931, and another for the period, third quarter of 1933 to fourth quarter of 1937. From the regression equations of these functions, the ratio of W to W + P is obtained. Subtracting R from 1 and dividing the remainder according to this ratio will give the values of W and P. Thus the value of R is the key figure of the whole process, and errors in calculating R, or changes in R after calculation, would make all the figures wrong. It is to be hoped that better techniques can be utilised by Governments wishing to use such data in establishing priorities for public investment projects.

In calculating K and K', a distinction is made between the marginal propensity to consume of wage earners and of profit-recipients. The authors make an allowance for loss of workers' income from unemployment insurance upon being employed on a public works project. For policy purposes, it might have been better if this adjustment had not been made; it would be useful to be able to compare the multiplier effects of unemployment in-

surance *per se* with the multiplier effects of public investment *per se*. Moreover, the basic data used to estimate propensity to save do not include such an adjustment. The workers' propensity to save is obtained from figures of post office savings deposits, life insurance, and repayments to building societies. These figures are then compared with total wages and salaries, to get the propensity to save for all wage and salary earners. If S is taken to stand for this figure, it is then assumed that the workers' marginal propensity to save out of wages received on public investment projects will be given by the ratio of S to W − U, where U is income formerly received from unemployment benefits. Five assumptions are implied in this use of the data: first, that the marginal propensity to consume of workers on public investment projects is the same as for all wage and salary earners; second, that all savings of wage and salary earners take the forms enumerated and no other; third, that W − U is equal to the increment of workers' incomes; fourth, that the workers saved nothing when on relief; fifth, that average and marginal propensities to save are equal.

The estimate of the share of workers' spending that goes for imports is, as the authors admit, even more tenuous, and average instead of marginal values are used.

The marginal propensity to consume for profit-recipients ("capitalists") is obtained by subtracting wages, small salaries, and unemployment benefits from total consumption, and then adjusting for working-class savings. The share of capitalists' consumption going to imports is obtained from two regression equations, one for 1929-1931 and one for 1932-1936, of "imports of certain finished goods for non-labour recipients" on non-labour income.

TABLE 56. ESTIMATED VALUES OF THE EXPENDITURE MULTIPLIER IN THE UNITED KINGDOM

Year	Expenditure multiplier $\frac{}{(W'+P')+(W+P)\frac{k'}{1-k}}$
1930	1.0475
1931	1.0253
1934	1.3891
1935	1.3518
1936	1.3422

Source: BRETHERTON *et al.*, *op. cit.*, p. 348.

The final results are shown in table 56. It is perhaps worth repeating that such calculations of secondary effects of public investment as a whole are useless for establishing priorities for particular types of project, since they provide no information about the *relative* process effects of various projects that is not obtained directly from figures of primary employment. The final figures are useful only in giving some idea of the order of magnitude of the multiplier effects to be expected from public investment.

If calculations of multiplier coefficients of particular projects could be no more precise than those outlined above, it is in any case doubtful whether the results would warrant the time and effort involved. It would probably be more useful to rank the projects in

terms of relative multiplier effects up to the second stage, say, without calculating actual coefficients. That is, primary employment, on-site and off-site, could be calculated, and projects ranked accordingly. Relative secondary effects on consumer spending could then be estimated roughly from the average wage rates of the workers on and off the site; the marginal propensity to consume of the workers would tend to vary inversely with these wage rates. The marginal propensity to consume out of profits is probably more or less independent of the rate of profit in particular industries. The indicator of the rank-order of secondary effects on consumer-spending could be used to decide the final rank-order where relative primary employment is not clear. In cases where the rank-order of secondary effects is radically different from the rank-order of primary effects, the final rank-order might take the secondary effects into account.

One final point must be made. Statistically, no distinction can be made between pure multiplier effects and induced private consumption, so long as general figures of consumption are used. The figures of Bretherton *et al.*, and indeed virtually all statistical estimates of the multiplier, include induced private consumption. In order to isolate the multiplier proper, the budgets of the workers employed on public investment projects, and the budgets of the recipients of increased income at each stage, would have to be traced. There seems little possibility of carrying out such an investigation.

Steps in Measuring Relation Effects

A still more serious deficiency in the Bretherton figures is that they include no attempt to measure secondary and tertiary effects on private investment. Indeed, little effort has as yet been devoted to measuring the "relation" by economists in general, partly because it is known to vary widely in the course of the business cycle and consequently to be extremely difficult to estimate from any regression equation.

Using an equation of the type introduced by Ragnar Frisch[1], the "acceleration principle" proper could be stated as follows:

$$\frac{dI}{dt} = k\left[h\frac{dE}{dt} + \frac{d^2E}{dt^2}\right]$$

where I = private investment, E = current Government expenditures on materials and equipment, 1/k = the ratio of output of materials and equipment to the volume of capital invested in the industries producing them, h = the proportion of this capital that is replaced in each period, and t = time.[2] K varies inversely

[1] Ragnar Frisch: "The Interrelation between Capital Production and Consumer-Taking", in *Journal of Political Economy*, Vol. 39, Oct. 1931, p. 646.

[2] The derivation, with Q = volume of capital invested in producing materials and equipment, is as follows:

$$Q = kE$$

$$I = hQ + \frac{dQ}{dt} = hkE + k\frac{dE}{dt}$$

$$\frac{dI}{dt} = k\left[h\frac{dE}{dt} + \frac{d^2E}{dt^2}\right]$$

with output except when plant is being operated at capacity; it then varies directly with the "period of investment", or degree of roundaboutness of production. "h" will tend to vary directly with output, since the replacement of private plant may be postponed when the market for its product contracts. Otherwise, it varies inversely with the durability of the plant and equipment used in meeting Government orders for materials and equipment to be used in public investment.

In the Frisch equation, h and k are assumed to be constants. A generalized form of the equation would be

$$\frac{dI}{dt} = k\left[h\frac{dc}{dt} + E\frac{dh}{dt} + \frac{d^2E}{dt^2}\right] + E\left[h\frac{dk}{dt} + \frac{d^2k}{dt^2}\right] + 2\left[\frac{dE}{dk}\cdot\frac{dk}{dt}\right]$$

The calculation of the E terms for different projects should present no difficulties. For purposes of ranking projects according to process effects, h and k need not be calculated, but only ranked. "h" will vary directly with E, inversely with age of plant and equipment and with durability of plant and equipment. "k" will vary inversely with E, the extent of excess capacity, and of stocks of finished materials and equipment, and the period of investment. Each of these factors could be ranked with reasonable accuracy; the relative weights to assign to each of them is less easily decided, and must be of an *ad hoc* character to a large extent.

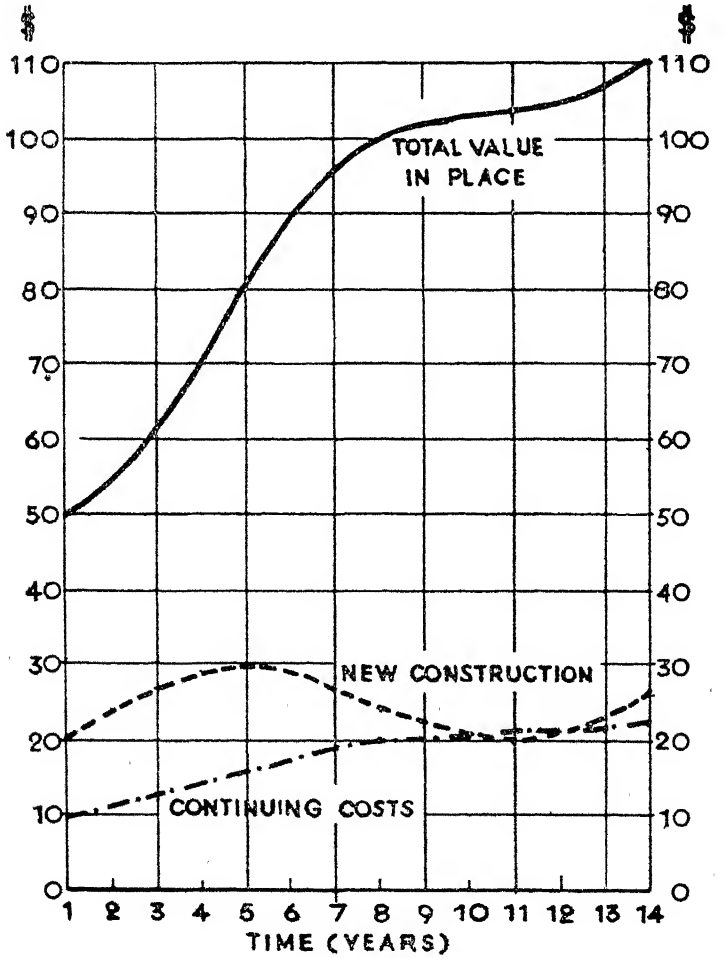
Some further qualifications must be added, however. First, for most types of plant, annual replacement due to wear and tear is a very small fraction of the total value of plant in place. Accordingly, h is small, and in the Frisch equation given above, the rate of change in Government expenditures would be a considerably more important factor than the rate of such expenditures. Second, public investment will usually be expanded at times when there would otherwise be excess capacity in the industries concerned; consequently, $k\left[=\frac{dQ}{dE}\right]$ will also be small, and $\frac{dI}{dE}$ will be small. Third, in so far as increased public investment does call forth additions to private plant, actual physical replacement — which alone creates jobs — will be particularly low in the first few years, for the new plant will not wear out physically at a constant rate. Fourth, far more important than the physical relationship between plant and output in private investment decisions will be the effect of increased public investment upon profits, profit expectations, and the volume of entrepreneurs' "own capital". These effects are obviously even more difficult to measure than those involved in the "acceleration principle" analysis.

Process Effects of Continuing Costs

At the beginning of a construction programme, maintenance, operation, and replacement costs seem such a small item relative to the original construction costs that their economic significance might easily be overlooked. Yet with a fixed annual budget for

public works, as more and more projects are completed, these continuing costs will absorb an increasing share of the budget, and will eventually constitute the entire outlay. It is quite conceivable that the economic impact of expenditures for maintenance and operation, and the distribution of funds withdrawn for replacement, may in certain periods exceed in importance the impact of new construction. This situation will prevail particularly in periods when construction is tapering off, and when continuing costs may still be rising. The importance of maintenance expenditures in British public investment budgets of the 'thirties has already been noted in Chapter X.

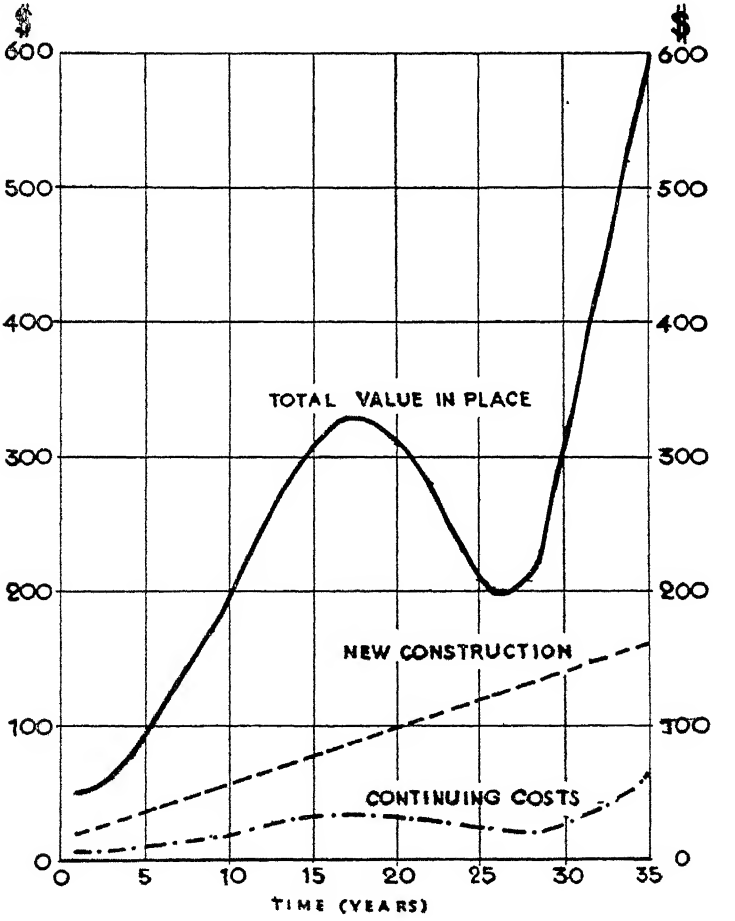
Chart VII. Hypothetical Relation of Continuing Costs to Construction Costs: Counter-Cyclical Construction, No Replacement[1]



[1] Assumptions: Continuing costs = 20 per cent. of value in place.

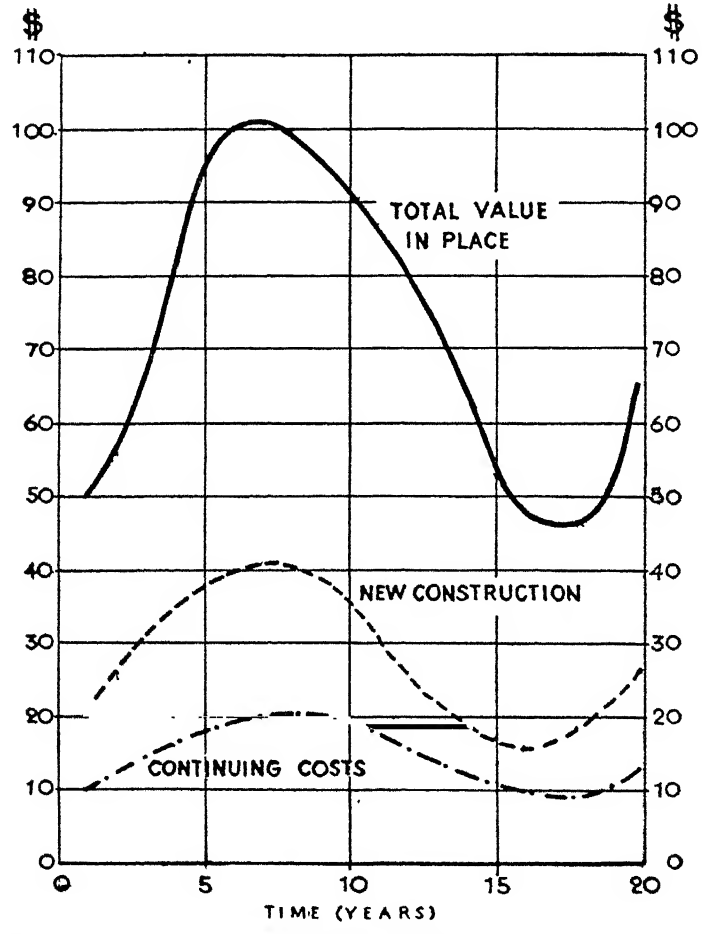
Chart VII indicates the relationship between continuing costs and construction costs when the latter are timed so as to counteract fluctuations in private investment. In this simplified model, it is assumed that no replacement is necessary within the period under consideration, and that the change in continuing cost is always a constant proportion (20 per cent.) of the total value of plant and equipment in place ("total value"). The significant fact demonstrated by the chart is that the continuing costs go on rising after new construction begins to decline and temporarily exceed the construction costs.

Chart VIII. Hypothetical Relation of Continuing Costs to Construction Costs: Constant Increase in New Construction, Periodic Replacement[1]



[1] Assumptions: Continuing costs = 10 per cent. of value in place.
No replacement needed for seven years after new construction.
Depreciation grows at increasing rate after seven years

Chart IX. Hypothetical Relation of Continuing Costs to Construction Costs: Counter-Cyclical Construction, Periodic Replacement[1]



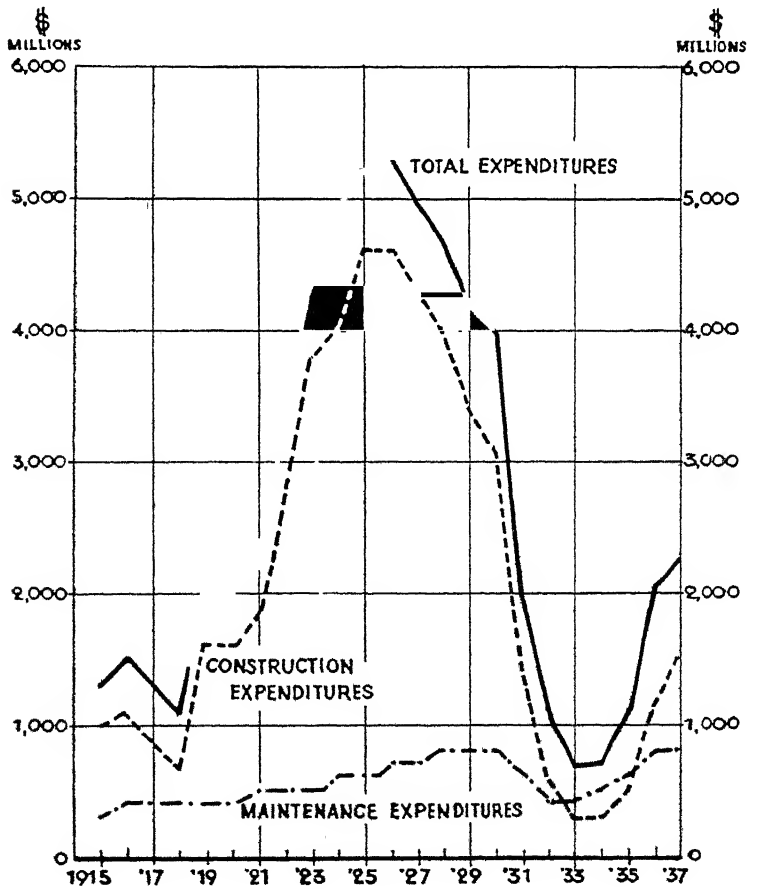
[1] Assumptions: Continuing costs = 20 per cent. of value in place.
No replacement needed for five years after new construction.
After five years, annual depreciation = 20 per cent. of value in place.

In reality, after certain lapses of time, the undertaking of construction costs will not add proportionately to total physical assets, but will in part be required to replace existing assets as they wear out. Accordingly, the continuing costs cease to rise proportionately after a certain period. Charts VIII and IX show the relationship between new construction costs and continuing costs on the assumption that the new assets begin to wear out, and are replaced at a constant rate, after the indicated number of years.

Chart VIII reveals an interesting fact. A constant rate of increase in construction outlay will give rise to a fluctuation in total value, and therefore in operating costs, so long as the maturation

of physical assets is irregular. If all other factors in the economy were stable, but the situation depicted in chart VIII prevailed, the fluctuations in operating costs, and the impact of these fluctuations on the rest of the economy, would be enough to propagate cyclical fluctuations in the economy as a whole. A comparison of chart VIII with chart VII shows that with irregular maturation of projects taken into account, the fluctuations in construction outlays are no longer damped by a continually rising outlay for operating costs. The upswings may be somewhat more violent under the conditions shown in chart VII; but the downswings are offset, to some extent, by the continued rise of operating cost. Under the conditions of chart VIII, while operating costs may rise for some time after the downturn of construction outlays, the downturn in operating costs comes before the trough of construction outlay is reached, thus amplifying the downswing.

Chart X. Expenditures for Residential Construction in Non-Farm Areas in the United States, 1915-1937.



A further complication is introduced by the fact that in the real world maintenance costs are not a constant proportion of the value of physical assets in existence, as assumed above, but tend to rise towards the end of the life of an asset. This fact accentuates the tendency for maintenance and operation costs to rise after new construction costs begin to taper off during a cycle.

In chart X, the maintenance costs accompanying construction costs for a case from the real world are presented. It will be observed that at the bottom of the downswing, maintenance expenditures exceeded new construction costs. Replacement and operating costs may also vary with the volume of construction outlays, particularly if different volumes of construction outlays represent differences in the size of the unit of work.

From an economic viewpoint, the distribution of continuing costs among operation, maintenance, and replacement costs is not a matter of indifference. Operating costs will consist mainly of outlays for on-site personnel, power, and certain rather specialised types of raw materials, which are on the whole different from the materials used for original construction. Maintenance costs will include some on-site labour, and materials of the same general categories as those used in original construction. The analysis of the effect of setting aside replacement funds will run in very different terms. Not labour and materials patterns, but the effects upon such factors as liquidity preference, marginal efficiency of capital, and the propensity to consume, will be relevant.

Varying assumptions as to gestation period, the rate at which physical assets wear out, the relationship between construction and total value of assets in equilibrium, and the functional relationship between continuing cost and total value, will produce almost any pattern of continuing cost. However, the examples presented should suffice to show that the continuing costs implicit in a countercyclical pattern of new public investment may be of considerable importance in the economy as a whole. Accordingly, any carefully planned programme of public investment ought to include some estimate of the process effects of the continuing costs that will result from the execution of the programme.

APPENDIX III

PLANNING PUBLIC EXPENDITURES OTHER THAN INVESTMENT

The definition of public investment in this Report excludes certain categories of public expenditure. At times, however, the analysis has not been confined strictly to the planning, timing, and financing of governmental construction projects and purchases of equipment, but has strayed into considerations of other types of Government expenditure. The difficulty experienced in distinguishing sharply between the planning, timing, and financing of Government expenditures as a whole, and public investment policy proper, raises questions as to the most convenient definition of "public investment", and as to the proper scope of organisations concerned with public investment policy. In this Appendix, some of the considerations involved in answering these questions are presented.

Government budgets as a whole may be classified into five general categories:

(1) Ordinary expenditures: debt service, salaries of Government officials and other recurrent and relatively stable items. By definition, these outlays cannot conveniently be made subject to a timing policy, except through varying the method of financing them.

(2) Public investment, expenditures resulting in publicly owned capital improvements, *i.e.*, in concrete assets yielding services over a period of time, including outlays for the maintenance, replacement, and repair of existing assets. Public investments can be subdivided into (*a*) construction, including soil conservation, irrigation, etc., and (*b*) purchases of equipment and supplies. Public investment can be made subject to timing, both physically and financially, without inconvenience.

(3) Human improvements: outlays designed to increase the productivity of the population directly, such as extraordinary expenditures for special health, education, and recreation projects and so forth. Expenditures for human improvements can be timed both physically and financially, but in some cases, it may be undesirable or inconvenient to contract expenditures once expanded. In other words, certain types of human improvements, once undertaken, will tend to move into the category of "ordinary" expenditures.

(4) Public expenditures designed to increase the productivity of private investment by improving or adding to privately owned assets. This category includes industrial research, geological surveys, provision of seed, fertiliser, and superior livestock breeds, digging or capping of wells on private land, irrigation of private land, planting of wind-screens on private land, and so forth. Many of these outlays could be timed, without undue inconvenience, both physically and financially.

(5) Transfer payments, such as subsidies (or tax reductions), etc., designed to increase private investment directly, and family allowances, etc., designed to increase consumer spending directly.

Admittedly, these five categories overlap to some extent, and some projects may be hard to classify; but all Government expenditures can be allocated to one or another of these classifications.

Ordinary expenditures can hardly be considered part of public investment, and enter into public investment policy only through their influence on funds available for public investment purposes. The same is true of transfer payments. Categories 1 and 5 thus belong to fiscal policy but not to public investment policy. Human improvements and improvements of private capital by public authorities, however, are absorbing an increasing share of many Government budgets, and are very closely related to construction and equipment projects. There may be some advantage, therefore, in including at least these two categories of expenditures (henceforth lumped together for convenience under the title "public services") within the scope of a planned public investment policy. The factors to be considered in taking such a step are outlined below.

Planning the Budget as a Unit

Fiscal planning for public investment projects cannot be separated from fiscal planning both for ordinary expenditures and for new or expanded public services. Ordinary expenditures have the first claim on available revenues. In allocating the balance, account should be taken of human improvements and of the assistance to private enterprise that the community may wish to undertake, as well as of public investment in the narrow sense. Moreover, the provision of capital improvements usually involves the provision of services as well, and the cost of providing the services that a structure is meant to facilitate should be considered at the time the capital improvement is planned. Emphasis upon capital improvements alone may therefore result in inefficient fiscal planning.

Another reason for planning other expenditures together with public investment is that the purpose of any governmental expenditure, whether or not it results in a physical asset, is to provide some sort of service. Schools are built to provide education; parks and playgrounds are constructed to provide recreation; hospitals are built to provide health. Accordingly, the public investment planner should think primarily in terms of services, and must con-

sider simultaneously the provision and the use of facilities to be constructed. The size and nature of the structures to be built will depend on the service to be provided by them. In many cases, some sort of non-construction project is a necessary prerequisite for the beginning of construction. Surveys of housing needs, or surveys of needs for schools or hospitals, must precede the preparation of engineering plans and specifications.

Contribution of Public Services to National Welfare and Development

The limitation of discussion to public investment in the strict sense may give an unwarranted impression that such projects are considered more important to national welfare and development than projects involving no construction or equipment. Clearly the appointment of a public health officer or a school nurse, the provision of hot school lunches, additions to teaching staffs or police forces, may contribute more to the welfare of a community than paving a gravel road.[1]

Undeveloped countries are likely to be especially in need of public service projects. As mentioned in Chapter XXI, India is planning a large programme of such projects, both human improvements and improvements of private capital. Among the former, public education of a variety of sorts is dominant. Among the latter, research, improvement of statistics, testing and standardisation, and geological surveys are included.

However, industrially advanced countries also have a need for projects of this type. The American public work programmes of the 'thirties included a substantial proportion of human improvement projects. Over 25 per cent. of the wages and salaries paid by Federal Emergency Relief and Work Projects Administration were for non-construction projects. These projects were regarded by the Administration as among the most useful undertaken. The adult education programme, for example, taught over one million illiterates to read and write within three years. In a typical month 35,000 instructors brought adult education to more than two million students.[2] It is not too much to say that the arts programmes, consisting of art, music, theatre, museum and writers' projects made a distinct contribution to the cultural life of the United States, by bringing the arts to people who would other-

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[1] As pointed out by Corrington Gill, former Assistant Administrator of the United States Civil Works Agency, Federal Emergency Relief Administration, and Work Projects Administration, public service projects are no less important for being invisible:

> Public health nursing projects, nursery schools, sanitation surveys, clerical aid in public libraries, city clerks' offices, etc., and community sewing rooms making supplies for the needy, are, for some mysterious reason, harder to justify in the eyes of people who "want to see something for their money". These projects, however, pay dividends in community and child health, and added efficiency in important public services. (*Wasted Manpower*, New York, 1939, p. 193.)

[2] "The adult education programme of the W.P.A. has probably meant as much or more to the nation than the school construction project" (*idem*, p. 194).

wise never have become acquainted with such mediums of expression. It is estimated that 60 per cent. of W.P.A. caravan theatre audiences had never before seen legitimate drama. The W.P.A. music project gave concerts to audiences aggregating 100 million people up to 30 June 1938. Some fifty art centres were established in 1936 alone. Five hundred murals were painted in public buildings; lectures and exhibits attracted hundreds of thousands of people. One exhibit alone, given in the Negro section of New York City, drew twenty thousand people. In addition, the National Youth Administration provided part-time employment on research and similar projects for thousands of needy students. Taken together, the arts and research programmes made an enormous contribution by preventing the collapse of cultural activities during the depression. Moreover, many of the artists employed on these programmes graduated to permanent places in the American arts.

Construction Projects and the Composition of Unemployment

Judging from the usual occupation of workers eligible for employment under the Work Projects Administration programmes in January 1936, shown in table 57, less than 13 per cent. of the total unemployed were construction workers. Adding skilled and semi-skilled workers in industry and manufacturing brings the figure to a little over 32 per cent. Adding unskilled workers who might also be directly employed in a public investment programme still leaves the figure below 50 per cent. Much the same situation is

TABLE 57. USUAL OCCUPATIONS OF WORKERS ELIGIBLE FOR WORKS PROGRAMME EMPLOYMENT[1] IN THE UNITED STATES, 15 JANUARY 1936

	Number of workers	Percentage
	,000's	
Professional and technical workers	121	1.9
Proprietors, managers and officials[2]	93	1.4
Office workers	240	3.8
Salesmen and kindred workers	184	2.8
Skilled workers and foremen in building and construction	478	7.5
Skilled workers and foremen in manufacturing and other industries	235	3.7
Semi-skilled workers in building and construction	317	4.9
Semi-skilled workers in manufacturing and other industries	1,023	16.0
Unskilled labourers[2]	961	15.0
Domestic and personal service workers	618	9.7
Farm operators and labourers	745	11.6
Inexperienced persons	842	13.2
Unknown occupation	545	8.5
Total	6,402	100.0

Source: W.P.A. Division of Social Research: *Usual Occupations of Workers Eligible for Works Programme Employment in the United States, January 15, 1936* (Washington, 1937), pp. 6-7.

[1] Includes workers aged 16 years and over in all households, consisting of families or single persons, whether transient or permanently resident, who had a previous relief status and had been certified by the public relief agency as eligible for relief at the time of certification. [2] Except in agriculture.

likely to prevail in many countries after the transition. Concentrating upon construction and purchases of equipment, and waiting for the secondary effects of these projects to provide employment for all classes of unemployed, would result in a considerable lag between the expenditures of funds and the absorption of the unemployed. Such a limitation of public investment would therefore cause needless suffering.

The supply of construction workers in some countries would in any case be inadequate, if all the public expenditure required to maintain full employment took the form of construction projects. In Canada, for example, the Sub-Committee for Housing and Community Planning of the Dominion Advisory Committee on Reconstruction has estimated that carrying out the recommended housing programme would itself require the training of thousands of new construction workers. In the United States, the Bureau of Labor Statistics has estimated that the supply of labour and materials would permit a total construction programme of $11,000 or 12,000 million per year in the immediate post-war period. When the $7,000 or 8,000 million of private construction included in the estimates of post-war private investment are deducted from this sum, it leaves only $4,000 or 5,000 million of possible public investment of a construction nature. This sum may be quite inadequate to maintain full employment in most of the post-war years. Yet, as argued in Chapter III, to train workers and provide materials-producing capacity sufficient to meet temporary employment needs through construction projects alone would unbalance the whole economy. Accordingly, it is important to include in the public spending programme projects suited to existing occupational skills, and requiring no purely temporary expansion of materials-producing capacity.

Public Services and Employment

It has been argued that public service projects have a more stimulating effect on total employment than capital improvement projects.[1] The basis for this argument is that a high proportion of expenditure on such projects goes directly to low-income groups whose ratio of consumption to income is very high. On construction projects, a large share of the payrolls goes to skilled workers with relatively high incomes, and a large share of total outlays goes into profits, or is dissipated through imports of materials and equipment. For a complete answer to the question of the relative stimulus to employment of public investment and public services, one would need to know the relative effects on expenditures for consumption and for investment with each transfer of the new income created. However, there can be little doubt that human improvements are more stimulating so far as secondary effects on consumption are concerned. In the absence of definite knowledge that the other process effects of public investment would be greater, therefore,

[1] Cf. P. A. Samuelson: "Fiscal Policy and Income Determination", in *Quarterly Journal of Economics*, Aug. 1942, pp. 599-601; and R. B. Beattie: "Some Aspects of the Problem of Full Employment", in *Canadian Journal of Economics and Political Science*, Aug. 1944, pp. 336-339.

it is reasonable to conclude that human improvements are more stimulating than public investment projects.[1]

Public Services and Counter-Cyclical Timing

Physically, most public services are more flexible, and can be more easily fitted into a timing programme, than most construction projects. They take less advance planning. Many of them can be started immediately after the decision to increase expenditures has been made. They begin yielding useful results as soon as expenditures begin, or shortly afterwards. The benefits of appointing a school nurse, launching a hot school lunch programme, or organising a symphony orchestra, begin to flow as soon as personnel is acquired. Part of the greater success of the work relief programme of the Civil Works Administration in putting men to work rapidly in the United States, as compared with the Public Works Administration programme[2], is to be explained by the inclusion in the work relief programmes of a substantial volume of service projects. Service projects, especially human improvements, can also be quickly terminated without destroying the usefulness of work already completed. Some of them, such as research and surveys, art and writing projects, have a definite point of completion. It may be desirable to continue public support of such projects as research and art. However, they can be terminated if necessary, whereas construction projects must be finished to be useful at all, and always involve a certain amount of continuing cost.

While public services can be physically timed, there is serious doubt as to whether all public services ought to be subjected to counter-cyclical variation. With regard to those improvements of private capital that involve construction or purchases of equipment, the limitations to physical timing are not different in kind from those relevant to public investment. However, some of the other types

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[1] It may be worth pointing out that the argument does not hold for transfer payments, such as unemployment benefits or family allowances, since these payments do not themselves constitute part of the national income. The services of a human improvement project, however, do constitute part of the aggregate value of goods and services sold that constitutes national income in the accepted sense. Hence the multiplier effects of a human improvement project would be

$$(1 + K + K^2 \ldots\ldots + K^n).\,\Delta E,$$

where K is the marginal propensity to consume and ΔE is the increase in government expenditures. The multiplier effects of a transfer payment would be only

$$(0 + K + K^2 + \ldots\ldots + K^n).\,\Delta E.$$

Thus with the same values for E and K, the increase in income will be smaller for transfer payments. The greater the extent to which a human improvement project is really a disguised dole, the smaller will be its multiplier effects. If, for example, the value of the service provided is really only half its cost, its multiplier effects will be only

$$(1/2 + K + K^2 + \ldots\ldots + K^n).\,\Delta E,$$

and so on. However, if its value is anything above zero, it will add more to income than a transfer payment.

The argument probably also does not hold for improvements of private capital; so far as secondary effects on consumer spending are concerned, most of these projects are analogous to public investment.

[2] See above, Ch. IX.

of assistance to private enterprise, such as research, and many human improvements are worth carrying out continuously if at all. Indeed, some of them are so continuous in nature as to be frequently considered ordinary expenditures, such as fire and police protection, primary and secondary school education, and public health services. If such services are once expanded, they should not be subsequently contracted.

On the other hand, there are some human improvements and some types of assistance to private enterprise, to which this argument does not apply. Some kinds of adult education, such as teaching immigrants to read and write their new tongue, or teaching farmers new techniques, or health and safety campaigns, can be concentrated into a three to four-year period and then dropped for four or five years, without serious loss of effectiveness. Certain inoculations can also be done periodically. Such projects as hot school-lunch programmes can be expanded in periods of unemployment, when nutritional standards are less likely to be met in all homes, and can be contracted in prosperity, when family incomes are higher. Geological surveys, testing of new commodities and techniques, can be varied in volume without serious inconvenience. The trouble with such projects is less that they cannot be timed without inefficient use of resources, than that the total amount any country will wish to spend on them is likely to be small and their influence on employment is therefore likely to be very limited.[1]

In any case, the difference between such projects and public investment with regard to postponability can easily be exaggerated. The fact that any human improvement worth doing is worth doing now is no argument against postponing it; the same could be said of a capital improvement.[2] The simple fact is that with limited resources and virtually unlimited wants, it is never possible to make *all* desirable public expenditures — ordinary expenditures, public investment, human improvements, and aids to private enterprise — at once, without causing inflation. Obviously therefore, the time to expand *all* types of expenditure that are subject to any variation whatsoever is when the private sector is releasing resources, and thus making such expansion possible without inflation. Looked at in this manner, a period of slack business is an opportunity to satisfy various wants for public goods and services. True, a capital improvement, once completed, provides an asset that need not be reproduced every year, while some public services do not. But while building a school in Holmesville may mean that Holmesville will not need another school for 50 years, it does not mean that Modeltown does not need a school now, or that Holmesville does not need a hospital. Moreover, some human improvements also yield highly durable assets. A painting or a book lasts longer than a school, and saving the health of a child or teaching an illiterate adult to read and write yields services over several decades.

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[1] This prediction is borne out by American experience. Cf. Benjamin HIGGINS, "The United States Public Work Reserve", *loc. cit.*

[2] "For obvious social reasons, any programme for [urban] redevelopment must be a continuous one, and cannot be timed exclusively as a measure to level off the business cycle" (G. H. PERKINS, *op. cit.*, p. 5).

Even where it is found desirable to continue services after they have been initiated, two types of timing are still possible. First, the service may be absorbed by the private sector of the economy as prosperity returns, as was the case with many of the art, music and theatre projects of the American programme. Second, even if the services are continued on a publicly financed basis, a counter-cyclical effect can be obtained by variations in the extent to which costs are covered by current revenues.

Conclusion

In consideration of all these factors, it would appear that the thorough planning of public investment requires simultaneous consideration of human improvements, improvements of private capital at public expense, and, indeed, of all items of Government expenditure. Ordinary expenditures, and transfer payments such as subsidies, family allowances, etc., cannot conveniently be regarded as "public investment". The other categories might, however, be included in the term.

APPENDIX IV

GLOSSARY OF TERMS[1]

Annexed budgets — separate budgets of revenue-yielding public assets.

Capital budget — proposed extraordinary public expenditures for the next fiscal period (see "extraordinary public expenditures").

Capital improvements — synonym for public investment.

Capital-scarcity countries — countries where there is a tendency for investment *plus* net exports to exceed savings at high levels of employment.

Community — the area over which any government has jurisdiction.

Condemnation — expropriation by law of private lands for a public purpose by a public authority.

Continuing costs — maintenance, operation, and replacement costs.

Deferred demand — demand for goods and services that have been unavailable for some time; includes replacement demand, demand for perishable goods, and demand for services.

Deflationary gap — the volume of total spending needed for full employment *less* the volume of private spending on home-produced goods and services (including exports) and ordinary government expenditures on current services. (If this sum is negative, it is usually called an "inflationary gap".)

Direct labour or force-account projects — public investment projects undertaken directly by a public authority, with labour hired, equipment owned, and materials bought by the public authority, as contrasted with work done through a private contractor.

Disposable income — national income *less* business and personal taxes and all undistributed profits.

Excess-savings countries — countries where there is a tendency for savings to exceed private investment *plus* net exports at high levels of employment.

Extraordinary public expenditures — government expenditure for irregular or discontinuous public works and services.

[1] The sense in which various terms are used in this Report appears from the following definitions, which may be helpful in enabling the reader to understand the technical terms used in discussions of public investment policy. It is recognised that for some of the terms no universally accepted definitions are available, and in these cases the definitions should be regarded as suggestions.

Floating value — expected increase in value of land as a result of increased demand for building space.

Force account — see "direct labour or force-account projects".

Full employment — Full employment exists when every adult who wants employment can obtain it at current wage rates and working hours; when working hours are no shorter than the workers themselves (collectively) prefer at current wage rates; when wage rates are not so low as to constitute exploitation of workers; and when a worker who loses his job through contraction of his employer's scale of operations can find new employment (subject to the above conditions) within a short period, not exceeding (say) three months. Because of frictions, these definitions would be compatible with actual unemployment of 3 to 4 per cent. of the labour force.

Gross national product — the total value of goods and services produced in a given country in a given period.

Human improvement projects — expenditures by public authorities on projects designed to increase the productivity of human resources directly, without producing a physical asset: education, public health, recreation, and similar projects.

Induced private consumption — new streams of consumer spending induced indirectly by public investment.

Induced private investment — new streams of private investment stimulated indirectly by public investment.

Intermediate governments — governments of States, provinces, cantons, and other similar governments in a federal system.

International public investment — public investment financed wholly or in part by loans from foreign Governments, projects covering territories of more than one State, or requiring international planning or administration.

Labour pattern — the volume of employment provided by a public investment project and its distribution between on-site and off-site employment.

Local government — any government authority with jurisdiction over an area smaller than a whole country. Includes States, provinces, cantons, and other "intermediate" governments; cities, towns, counties, and other "municipal" governments; and "regional" authorities with jurisdiction over more than one intermediate or municipal political unit.

Locality — the area over which a local government has jurisdiction.

Marginal propensity to consume — ratio of the increase in consumer spending to the increase in disposable income.

Master plan — the concrete expression, through maps and reports, of decisions made by a planning authority as to the desired physical form and public personnel of a community.

Multiplier effects — secondary increases in consumer spending out of income generated directly by public investment (see "process effects").

Municipal governments — governments of cities, towns, villages, counties, townships, etc.

National income — gross national product *less* depreciation.

Net exports — exports *less* imports and excluding exports financed by foreign government lending.

Off-site employment — number of man-hours required in mines, forests, and factories, in transportation and administration, to produce the materials used in a public investment project, to bring them to the site, and to organise the undertaking.

On-site employment — number of man-hours of employment required on the site of construction (or operation) of a public investment project.

Operating budget — proposed ordinary public expenditures for the next fiscal period (see "ordinary public expenditures").

Ordinary public expenditures — government outlays for more or less regular and continuous public works and services: debt service, salaries of legislative and administrative branches of government, fire and police protection, etc.

Process effects — total increase in national income and employment resulting from the process of executing and financing public investment projects; includes:

- on-site employment (and income) } primary effects
- off-site employment (and income) }
- multiplier effects on income and employment } secondary effects
- relation effects on income and employment }
- effects through induced private consumption }
- effects through induced private investment }
- further increases in consumption arising out of secondary increases in investment, and } tertiary effects
- further increases in investment arising out of secondary increases in consumption. }

Product effects — immediate end-product of public investment; the direct contribution of public investment to social welfare.

Programme — a schedule of public investment projects to be carried out in a definite order over specific periods *plus* a reserve of projects to be executed whenever funds become available.

Propensity to consume — ratio of consumer spending to disposable income.

Public expenditures — total government outlays for ordinary and extraordinary public works and services.

Public investment — new works undertaken, and new plant, equipment, and supplies purchased, by central, regional, or local

governments and publicly owned undertakings not otherwise included, and maintenance and repair work related thereto.

Public services — public expenditures for human improvements, and for the improvement of private capital (surveys, planning and research, publicly financed and executed projects on private lands, etc.).

Public works — synonym for public investment.

Regional authorities — authorities with jurisdiction over an area including several intermediate or municipal political units.

Relation effects — new private investment stimulated directly by the demand for materials and equipment utilised in public investment projects (see "process effects").

Relief works — public works undertaken for the express purpose of providing incomes to the unemployed, under conditions as to wage rates, earnings, use of equipment, or other factors, less favourable than those prevailing for similar work in private enterprise.

Replacement demand — demand for capital goods or durable consumer goods that have depreciated or become obsolete.

Reserve shelf — a reserve of planned public investment projects to be ultimately included in the programme of a public authority, but for which no funds are expected to become available during the period for which the programme is laid out.

Supernormal consumption — consumption in excess of current disposable income multiplied by average propensity to consume during a succession of pre-war years.

Tertiary effects — further increases in private investment due to secondary increases in consumption, and further increases in consumption due to secondary increases in investment (see "process effects").

Time pattern — the distribution through time of the total number of man-hours of work on a public investment project.

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